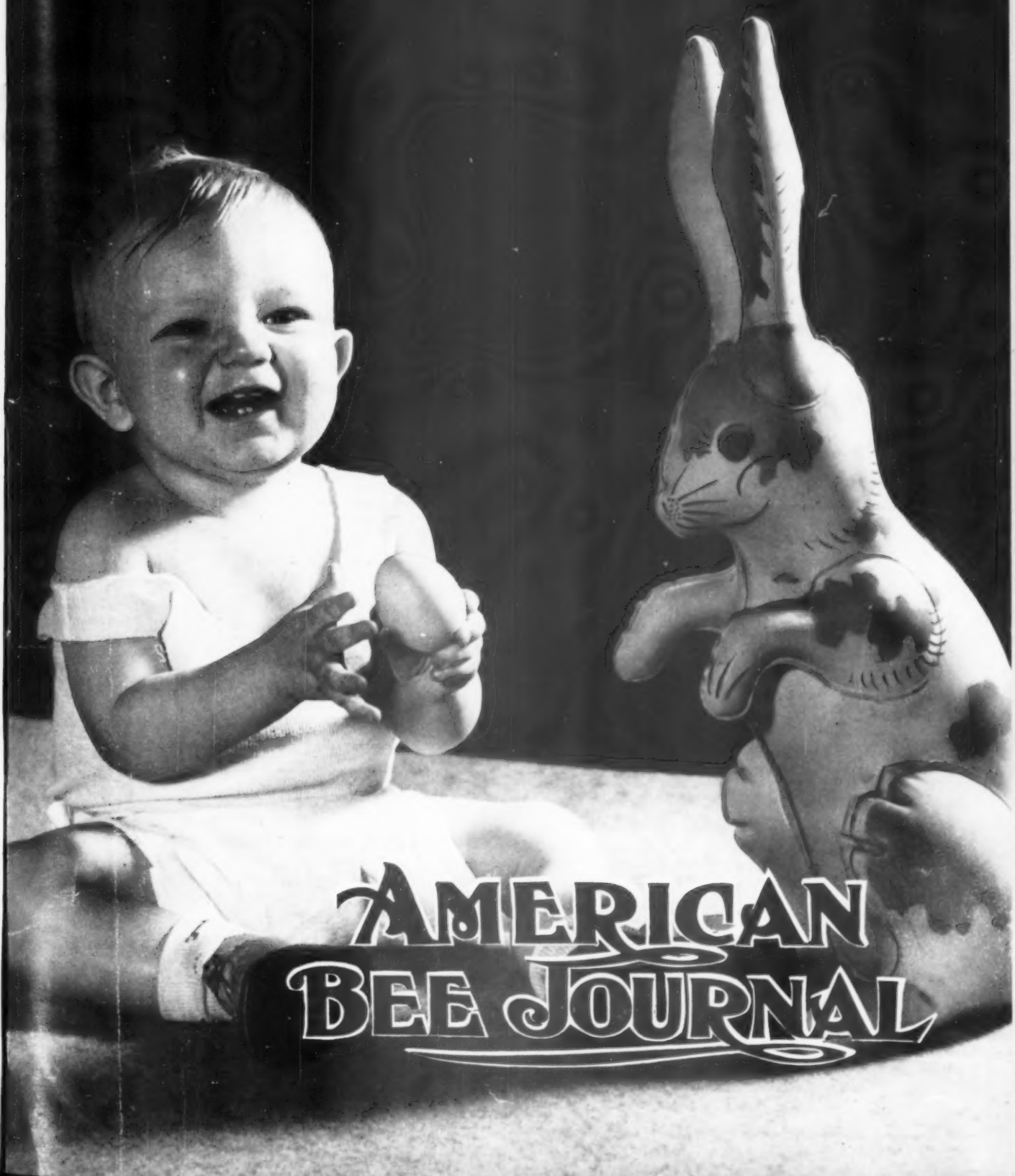


APRIL 1947



AMERICAN BEE JOURNAL



WITHSTANDS HOT WEATHER

Non-Sagging Non-Stretching

Stretched cells reduce the brood area of combs

Drones eat up your profits

Stop this loss. For efficient, profitable combs use **THREE-PLY**

Order now. No advance in prices

THE A. I. ROOT CO. OF IOWA
COUNCIL BLUFFS, IOWA

LOTZ SECTIONS

"The Best Money Can Buy!"

We are now featuring only the Mill Run grade of section due to the scarcity of basswood lumber.

This grade still maintains the high quality of fine workmanship, and accurate dimensions long associated with our product.

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Manufacturers and Jobbers
of Bee Supplies
BOYD, WISCONSIN

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MEMBER LOUISIANA RETAILERS
ASSOCIATION

Package Bees and Queens

Twenty-six Years as Commercial Queen Breeders.
Oldest Combless Package Bee Shippers in Louisiana.

Disease Resistant Stock ITALIAN BEES AND QUEENS

2-lb with spring bred laying queens	\$4.00
3-lbs. with spring bred laying queens	5.00
Extra queens—any number	1.25

WHY PAY MORE FOR THE BEST

BOOK EARLY
PLANNING WITH ENTHUSIASM IS THE
ESSENTIAL OF SUCCESSFUL
BEEKEEPING

Red Stick Apiaries & Co.

MAIN OFFICE, 113 LEE AVENUE
DONALDSONVILLE, LOUISIANA
Telegraph Western Union

Three-Band Italian Package Bees

BOOKED TO OUR CAPACITY FOR APRIL.
HAVE OPEN DATES IN MAY FOR THREE
POUND PACKAGES ONLY, WITH OR
WITHOUT QUEENS.

In lots of 1-29, each with queen	\$5.10
Lots of 30 or more	4.50

If queenless packages are wanted deduct \$1.10 from the above prices.

For introduced queens add \$1.10 to the price of each package.

JACKSON APIARIES

FUNSTON, GA.

QUALITY

The manufacturing of *quality* bee supplies is a very exact science, requiring both skilled workmanship and the best of materials.

Babcock's new beehive factory, located in the heart of the white pine and cypress timber regions, is now in full production to give you **QUALITY** beehives that will equal any on the market at any price.

Only Babcock offers you hives made with everlasting Cypress bottom boards, bodies of Cypress or high quality soft beehive pine, and telescoping covers complete with *pure aluminum metal covering*. These are truly everlasting hives with years of service built into every part. Completely dovetailed, this perfect fitting equipment is well worth the slight additional cost and will pay for itself many times. All hives are supplied with divided bottom bar standard frames unless otherwise specified.

Orders are now being accepted for only the following items, therefore we would appreciate your not asking us to quote prices on anything else.

Beehives, complete as above, and without inner covers. Shipped only in multiples of five, ten, etc.

Furnished in 10-frame size only—
FIVE COMPLETE HIVES \$28.75

COVERS ONLY, complete with
aluminum covering, five for \$7.75

Bottom Boards, of 100% pure
Cypress, 5 for \$5.25

Hive Bodies, empty,
5 for \$7.50

Immediate delivery on covers, bottom boards and hive bodies. Orders for complete hives filled in order received.

BABCOCK HONEY COMPANY

803 Sumter Street : Columbia, S. C.

Telegraph: Western Union Telephone: 41621

ITALIAN PACKAGE BEES AND QUEENS ALSO D. R. QUEENS

ACCEPTING ORDERS FOR MAY AND LATER SHIPPING, BOOKED FULL FOR APRIL. PRICES IN U. S. FUNDS.

Lots of	Queens	2-Lb.	3-Lb.
1-24	\$1.40	\$4.50	\$5.75
25-99	1.30	4.25	5.50
100-up	1.20	4.00	5.25

For queenless packages, deduct price of queen.

HOMAN BROS. : RT. 2 : SHANNON, MISS.

Puett's Packages

Space for early shipments is now almost entirely booked. Rush orders in for earlier than May shipment. Demand is enormous. Don't be left out by waiting too late.

Send \$1.00 per package deposit to hold shipping date.

PACKAGE BEES WITH QUEENS

Quantity	2-lb.	3-lb.	4-lb.
1 to 9	\$4.50	\$5.65	\$6.80
12 to 48	4.25	5.40	6.55
51 to 99	4.15	5.30	6.45
Above	4.00	5.15	6.30

For loose-queen type add \$1.00 per package. For queenless packages deduct \$1.25

PUETT COMPANY
HAHIRA, GEORGIA

ROOT QUALITY BEE SUPPLIES GLASS AND TIN CONTAINERS HONEY AND BEESWAX WANTED

M. J. BECK CO.
Successor to M. H. HUNT & SON
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LORD'S ACRE PLAN

for support of the rural church? Get monthly reports of it in the

Farmers Federation News

3 years \$1 or send 2 cents stamp for sample copy. Address ASHEVILLE, N. C.

Gaspard's Quality Italian Queens and Package Bees

We are hooked up for the month of April, but we still have good open dates May 10 on, for those good, full weight Gaspard packages. Health certificate accompanies each shipment. Live arrival guaranteed. Prices as follows:

2-lb. package with queen 1-49,	\$4.25	50-up,	\$4.00
3-lb. package with queen 1-49,	5.25	50-up,	5.00
4-lb. package with queen 1-49,	6.25	50-up,	6.00
5-lb. package with queen 1-49,	7.25	50-up,	7.00

Queens \$1.35 each

J. H. GASPARD : HESSMER, LA.

Better Bred Queens—3-Banded Italians

We are booked to capacity for April. Our prices for May will be as follows:

	Queens	2-Lb.	3-Lb.	4-Lb.
1 to 24	\$1.40	\$4.50	\$5.85	\$7.20
25 to 99	1.30	4.25	5.55	6.85
100 up	1.20	4.00	5.25	6.50

CALVERT APIARIES

Calvert, Alabama

DUAX APIARIES

Package Bees & Queens

2-LB. PACKAGE WITH QUEEN \$4.25
3-LB. PACKAGE WITH QUEEN 5.25
QUEENS, EACH 1.35

10% of price books your order.

DUAX APIARIES

GROVELAND, FLORIDA

THE GOAT WORLD

America's oldest magazine devoted exclusively to milk goats. Broadest circulation—goes to every state and eighteen foreign countries. Articles by best authorities. Edited by practical goat breeders. Subscription: \$2.00 per year in U. S. and Canada; 3 years for \$5.00. Sample copy 20c.

THE GOAT WORLD

P. O. Box 1530, Portland 7, Oregon

ITALIAN BEES AND QUEENS

Now booking orders for April and May shipments of package bees.

Lots of	2-Lb.	3-Lb.	
1-24	\$4.50	\$5.85	With young
25-99	4.25	5.55	laying queens
100-up	4.00	5.25	Express collect

Live and safe delivery guaranteed.

BOND & SON APIARIES

P. O. BOX 111, UNION, MISSISSIPPI

McCord Frame-Grip

Patent Pending



A light weight, handy instrument used for loosening and removing frames from the hive with one hand. Price \$2.50, plus 15c postage fee. Shipping weight 12 oz. Satisfactory discounts for dealers.

McCord Mfg. Co.

RT. 2, BOX 866, SAN JOSE, CALIFORNIA

Gentle Northern Queens

FROM TESTED 3-BANDED ITALIAN BREEDING STOCK

This hardy improved strain of bees is being reared under natural conditions here in the north.

Prices June 1st to October 20th

Untested queens (each)	\$1.35
Tested queens, in large cages (each)	2.25
Export queens (each)	4.75

We ship Airmail Postpaid.

20% in U. S. funds will book order, balance before shipment is made. Prompt service and satisfaction.

BARGER APIARIES

CAREY, OHIO

QUEENS

Sorry, cannot accept any more orders for package bees. Queens before June 1st, \$1.15 each. We guarantee safe arrival and satisfaction. 10% books your order—balance one week before shipping.

BAYOU BEE CO.

RT. 1, BOX 49, MONTEGUT, LOUISIANA

STATEMENT OF THE OWNERSHIP
MANAGEMENT, CIRCULATION, ETC., RE-
QUIRED BY THE ACTS OF CONGRESS
OF AUGUST 24, 1912 AND MARCH 3,
1933.

Of American Bee Journal, published monthly
at Hamilton, Illinois, April 1, 1947.

STATE OF ILLINOIS, } ss.
County of Hancock, }

Before me, a notary public in and for the
state and county aforesaid, personally ap-
peared M. G. Dadant, who, having been duly
sworn according to law, deposes and says
that he is the business manager of the
American Bee Journal and that the follow-
ing is, to the best of his knowledge and
belief, a true statement of the ownership,
management, etc., of the aforesaid publi-
cation for the date shown in the above
caption, required by the Act of August 24,
1912, as amended by the Act of March 3,
1933, embodied in section 537, Postal Laws
and Regulations, printed on the reverse of
this form, to wit:

1. That the name and addresses of the
publishers, editors, and business managers
are:

Publishers: American Bee Journal, Ham-
ilton, Ill.

Editors: G. H. Cale, Hamilton, Ill., F. C.
Pellett, Hamilton, Ill., M. G. Dadant, Ham-
ilton, Ill., J. C. Dadant, Hamilton, Ill., R. A.
Grout, Hamilton, Ill.

Business Managers: M. G. Dadant, Ham-
ilton, Ill., J. C. Dadant, Hamilton, Ill.

2. That the owners are:

H. C. Dadant, Hamilton, Ill.

J. C. Dadant, Hamilton, Ill.

V. M. Dadant, Hamilton, Ill.

M. G. Dadant, Hamilton, Ill.

C. S. Dadant, Hamilton, Ill.

R. A. Grout, Hamilton, Ill.

L. C. Dadant, Hamilton, Ill.

R. H. Dadant, Hamilton, Ill.

Louisa G. Saugier, Hamilton, Ill.

3. That the known bondholders, mortga-
gees and other security holders owning or
holding one per cent or more of the total
amount of bonds, mortgages, or other se-
curities are: None.

4. That the two paragraphs next above,
giving the names of the owners, stockholders,
and security holders, if any, contain not only
the list of stockholders and security holders
as they appear upon the books of the
company but also, in cases where the stock-
holder or security holder appears upon the
books of the company as trustees or in any
other fiduciary relation for whom such trustee
is acting, is given; also that the said two
paragraphs contain statements embracing
affiant's full knowledge and belief as to the
circumstances and conditions under which
stockholders and security holders who do
not appear upon the books and securities in a
capacity other than that of a bona fide
owner; and this affiant has no reason to be-
lieve that any other person, association, or
corporation has any interest direct or in-
direct in the said stock, bonds or other
securities than as so stated by him.

(Signed) M. G. DADANT,

Business Manager American Bee Journal.
Sworn to and subscribed before me this
20th day of March, 1947.

MINNIE S. KING, Notary Public

My commission expires Nov. 17, 1949.

Elk Mountain Pollen Supplement

is the early spring answer to a field
bee's prayer. Scientifically blended,
ready to feed. The bees love it. Send
\$1.00 for a postpaid trial bag with
feeding instructions and price lists.

ELK MOUNTAIN PRODUCTS
P. O. Box 233, Carbondale, Penn.



HAZEL-ATLAS
GLASS CO.
WHEELING, W. VA.

POLLEN SUBSTITUTES

	1-Lb.	5-Lb.	10-Lb.	25-Lb.
Brewer's yeast and soy flour expeller mixed 1 to 6		\$.75	\$1.50	\$3.25
Brewer's yeast	.40	1.50	2.75	5.50
Soy flour			1.40	2.75

Write for prices in larger quantities. Include postage if you wish it by parcel post.

Allow 2 pounds for packaging.

All prices collect, Bainbridge, N. Y. **M. Y. S. COMPANY, Bainbridge, N. Y.**

QUEENS

Fall Queens a Specialty

QUEENS

You send the order; I have the queens

LEATHER COLORED ITALIAN QUEENS

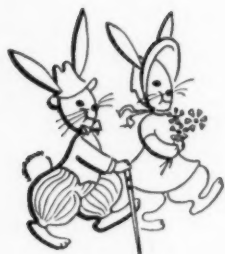
MIDDLE TENNESSEE APIARIES

1 to 25, \$1.35; 26 and up, \$1.20—From Imported Strains. 1/4 books orders. Balance
before shipping. All queens clipped and by air mail at no extra cost.
(All queens after June 15, \$1.00)

J. B. TATE & SON

1020 No. 4th St., Nashville 7, Tenn.

Telephone No. 34509M



Editorial Comment

ARE WE ASSOCIATION MINDED?

BEESKEEPERS in America apparently are not association minded. Perhaps it is because we have not really been crowded to the point where we needed to show our strength through an organization. More likely it is due to the fact that Americans are "too busy," and do not take the time to enjoy visits with other beekeepers or enjoy the bees as they do in most other countries. Their associations are much larger and more flourishing than our own here.

As an instance, at the Tampa meeting, we met Mr. Alfred Bergstu, who had come to America to study beekeeping conditions, particularly queen breeding under United States methods. He came partly on his own initiative and partly through the efforts of the Norwegian Beekeepers' Association, the Association being able to stand at least a share of his expenses. Imagine our amazement when we inquired about the size of his association and were informed that the Norwegian Association has a membership of some four thousand. This is all the more surprising when we realize that there are only approximately sixty thousand colonies of bees in the whole of Norway.

They really take beekeeping seriously. They join their association, receive their small official magazine, and work together in an effort to increase their production and to get the greatest amount of pecuniary benefit and pleasure they can from their beekeeping efforts.

In the United States, with several million colonies and a total production in excess of 200 million pounds of honey and 4 million pounds of wax each year, there is not an association which can boast half as many members as the Norwegian Association. Also, it is doubtful whether we have in all our associations combined as many as some of the larger associations in Europe, like that of Switzerland where they have approximately ten thousand members.

Perhaps we need to do a little more visiting and a little less fighting for the almighty dollar, of

which we are accused by many of our foreign friends.

THE HIVE AND THE HONEYBEE

IT was in 1853 that the appearance of the book, "Langstroth on the Hive and the Honeybee," opened the way for the development of the business of honey production. Prior to that time, beekeeping had offered but little attraction as a source of profit. The invention of the movable-frame hive made possible for the first time the intelligent control of the activities of the bees.

Langstroth has long been recognized as the father of commercial beekeeping because of the influence of his invention and his book. The book continued to appear in edition after edition, with revisions first by Charles Dadant and later by C. P. Dadant, until 1927 when the last one was issued.

Rarely has a book been responsible for such a profound influence upon an industry or continued to sell for so long a time. Due to his advanced age, C. P. Dadant was no longer equal to the extensive revision which changing conditions required and for several years the book was out of print.

The firm of Dadant & Sons, who have long held the Langstroth copyright, have issued a new book under the same title, written by a group of well-known specialists in the beekeeping field. Each important subject was assigned to one who was regarded as best able to deal with it. The result is a volume of 650 pages containing up-to-date information on every phase of honey production. It is unlike any other book on beekeeping and, while including some of the original Langstroth material, covers all recent research in its field. Not only is there an extended discussion of apiary management but the anatomy of the bee, her life history and behavior, the plants from which she gathers her harvest, and the nature and uses of the products of the hive are fully presented.

For April, 1947



INTERNATIONAL COOPERATION

ONE of our good friends, a correspondent and subscriber in the British Isles, mentions that there is great regret on the part of a number of British beekeepers that they are unable to obtain American-made goods in Britain. They are almost entirely dependent on their own country for queens, the plea being given by the authorities that, in the first case, the balance of trade is against the British Isles and importations must be avoided; and, in the second place, there is danger of the introduction of diseases through the importation of such queens.

It is to be regretted that such restrictions should come up, especially after one of the world's greatest wars which was to make for international cooperation, free intercourse between nations, and "one world" where everybody could "speak their piece."

We are not criticizing the British Isles alone but our own selfishness as well. Efforts have been made in this country to alleviate the situation by means of reciprocal treaties, and now obstructions are being thrown in the way and insistence made that high tariffs be resumed. It is hard to imagine how we are ever going to encourage trade between nations and relieve the suffering of other countries unless we are willing to reciprocate.

On examination, no doubt we would find that the people themselves are perfectly willing to cooperate and that most of the objections come on account of the commercial aspects of the situation. The British Isles, being a manufacturing nation, needs reciprocal trade in order to exist and we, with our heavy manufacturing, high labor standards, and high living standards, consider that the only way to maintain these high standards is to keep them for ourselves by tariffs and immigration restrictions.

Perhaps we are right, but most certainly we are not practicing the ideals of the Sermon on the Mount.

BREEDING BETTER BEES

SUBJECTS which stirred up as much interest as any other topics at the Tampa meeting of the Federation were artificial insemination of queen bees, as presented by Mackensen, Nolan, and Whitcomb, and the possibilities of securing better breeding stock in the queen rearing yards of the South and better queens in the northern honey producing areas.

Not only did the bee investigators believe that through artificial insemination there are greater possibilities of developing better breeding stock than any we have yet had, but this belief also was shared by the breeders. They insisted that better breeding stock should become available to them so that they might be able to pass the results of such breeding along to their queen customers in the North.

A suggestion on the part of the scientists was that perhaps this could be worked out through the beekeeping experiment stations cooperating with the breeders in each state under certain supervisory conditions.

The demand has become quite great on the Bee Culture Laboratory, both at Madison, Wisconsin, and at Baton Rouge, Louisiana, to aid in the training of scientific and practical men in the fundamentals of genetics as well as the art of making and handling the instruments for the artificial insemination of queens of specific strains of bees.

The rate of progress during the last three or four years indicates that it will inevitably lead to the dissemination of this stock to those breeders who would qualify under the conditions that might be set up, and thus better queens would become available to honey producers wherever they might be located.

QUEENS

We are booked up on packages and Caucasian Queens until after May 20th, but we can still take a few orders for Italian Queens for April and May. After May 20th we will be able to handle both package and queen orders with either Caucasian or Italian.

MAY WE HAVE YOUR BUSINESS?
WE WILL PLEASE YOU AS WE HAVE MANY OTHERS IN THE PAST

● 1947 PRICES THROUGH MAY 20TH ●

	Queens	2-lb.	3-lb.	4-lb.	5-lb.
1-24	\$1.40	\$4.50	\$5.85	\$7.20	\$8.55
25-99	1.30	4.25	5.55	6.85	8.15
100-up	1.20	4.00	5.25	6.50	7.75

Queens clipped or by Air Mail at no extra cost.

● 1947 PRICES AFTER MAY 20TH ●

	Queens	2-lb.	3-lb.	4-lb.	5-lb.
1-24	\$1.10	\$4.20	\$5.55	\$6.90	\$8.25
25-99	1.00	3.95	5.25	6.55	7.85
100-up	.90	3.70	4.95	6.20	7.45

For queenless package deduct price of queen.

The Stover Apiaries : Mayhew, Miss.

Northern California Package Bees and Queens



May Queens \$1.25 each

GEORGE E. SMITH

RT. 2, YUBA CITY, CALIF.

Member of the California Bee Breeders Ass'n

Service On Package Bees

Our schedule calls for shipment being made on time, of full weight packages headed with young queens. We will not book more orders for any one day than can be reasonably handled. This means much to you.

Prices

2-lb. with queen	each	\$4.30
3-lb. with queen	each	5.50
Larger packages, add	per lb.	1.20
Queenless packages	Deduct	1.40

10% deposit with order, balance 10 days before shipment.

Orders acknowledged promptly. Mention alternate shipping date if possible.

"THEY PRODUCE"

Rossman & Long

Box 133

MOULTRIE, GA

**We are booking orders
FOR 1947**

**AT PREVAILING PRICES
THE VICTOR APIARIES
UVALDE, TEXAS**

HONEY WANTED

Ship your honey to us, we pay the highest prices possible. Light or dark. One tin or a car load. **WRITE us NOW.**

Woodford Products

4532 N. Clark St., Chicago, 40

GRAPE FRUIT - ORANGES

RED BLUSH Grape Fruit \$3.50 a bushel. Pink-meated, seedless, tree-ripened. Tree-ripened Oranges \$4.00 a bushel.

MIXED BASKETS of Red Blush Grapefruit and Oranges at \$3.75 a bushel. All F. O. B. Brownsville. Express rates \$1.34 to \$2.58 a bushel, depending on your location.

Reference, Dadant & Sons, Hamilton, Illinois, who purchase my fruit. Complete price list on request

EDWARD E. BARTLETT

GROWER—SHIPPER
BROWNSVILLE, TEXAS

Italian Bees and Queens

2-lb. with queen \$4.00
3-lb. with queen 5.00
4-lb. with queen 6.00
Certificate of Inspection, and safe delivery guaranteed.

**CLOVER BEE FARMS
HESSMER, LOUISIANA**

CAUCASIANS

NO MORE PACKAGES this season. Queens after June 1st, \$1.25 each.

**D. T. WINSLETT
1015 SONOMA AVE.
NO. SACRAMENTO, CAL.**

QUEENS QUEENS

Three Banded Italian Queens as good as can be raised. Health certificate with every order.

Untested—1 to 25 \$1.25 each
25 to 50 1.20 each
50 up 1.15 each

**ALAMANCE BEE CO. : GRAHAM, N. C.
Geo. E. Curtis, Mgr.**

MAY PACKAGES

1 to 25 25 and up
2-Lb. and queen \$4.25 \$4.00
3-Lb. and queen 5.25 5.00
Queens 1.25 1.25

For shipment after May 15th deduct 25c a package from above prices. We would appreciate the opportunity of serving you.

**RAPIDES, APIARIES
WINNFELD, LOUISIANA**

Packages

SUNKIST ITALIAN

Queens

We have open dates to offer for bees May 15 and afterwards. Send us your inquiries. Guaranteed live delivery—young mated queens—health certificate—satisfaction. 10% books your order—balance 10 days before shipping.

PRICES: 1-25 25-up
2-Lb. with queen \$4.00 \$3.85
3-Lb. with queen 5.00 4.85
Queens 1.25 1.15

SUNKIST BEE CO. : CONVENT, LA.

HONEY WANTED

White and Amber Extracted Wanted. We pay the highest ceiling prices. Prompt remittance.

BEESWAX

Send for shipping tags. We are always **BUYING AND PAYING** the **HIGHEST MARKET PRICE.**

OLD COMB AND CAPPINGS

We use steam hydraulic wax presses that extract 100% of the wax and our rendering charges are very nominal. We charge only 2 cents a pound for wax rendered when your shipment of old comb weighs 100 pounds or more, 3 cents a pound on smaller shipments. Send for shipping tags.

WAX WORKED INTO FOUNDATION

You save **BIG** money having your wax worked into foundation. Send for our money-saving prices.

SEND FOR OUR MONEY-SAVING CATALOG

THE FRED W. MUTH COMPANY

Pearl and Walnut Streets, Cincinnati 2, Ohio, Telephone **MAIN 3068**

Headquarters for GOOD BEES AND QUEENS

THREE-BANDED ITALIANS. Bred of stock resistant to disease. Many leading commercial beekeepers use and endorse this strain. Gentle, prolific, evenly marked. Packages without queens, deduct price of queens. Prompt delivery. Courteous service.

	Queens	2-Lb.	3-Lb.	4-Lb.
1-24	\$1.40	\$4.50	\$5.85	\$7.20
25-99	1.30	4.25	5.55	6.85
100-up	1.20	4.00	5.25	6.50

Live delivery and satisfaction guaranteed.

LUCEDALE APIARIES : LUCEDALE, MISS.

Italian Package Bees and Queens For 1947

Hardy — Prolific — Gentle

We are completely booked up to full capacity to May 10th

2-lb. pkg. with queen \$4.00
3-lb. pkg. with queen 5.00
4-lb. pkg. with queen 6.00
5-lb. pkg. with queen 7.00

Health certificate, live delivery and satisfaction guaranteed.

B. J. BORDELON APIARIES, Moreauville, La.

WE REGRET

HAVING TO TURN AWAY CUSTOMERS. Although we are again increasing our production we can make **NO SACRIFICE** of **QUALITY** and **SERVICE** for Quantity. Please send no more orders for package bees for 1947 deliveries. **ITALIANS AND CAUCASIANS.**

WEAVER APIARIES, Navasota, Texas



Communion

†

*Dear nature, mother nature, give to me
Thy reassuring benedicite;
At Easter, from the dim cathedral aisle
Of forest dawn, with a first flower's smile!*
*Give thy beatitudes, which happy bees,
In pastured clover, murmur on the breeze
Wafting perfume of sweet country lane;
Refreshed with bright compassion of the rain!*
*Thy sunset autumn blessing, harvest Peace
Indwelling in ripe fruit, wilt Thou release
From clusters of wild grape, from golden wheat;
When Indian Summer ritual I eat!*

*Would that Thy moods a true communion be
With World-Soul, consubstantiate in Thee!*

—M. J. de Wolfe, New York.

†

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American Bee Journal

HAMILTON, ILLINOIS

April, 1947

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Associate Editors—M. G. Dadant, Frank C. Pellett,
J. C. Dadant, Roy A. Grout.

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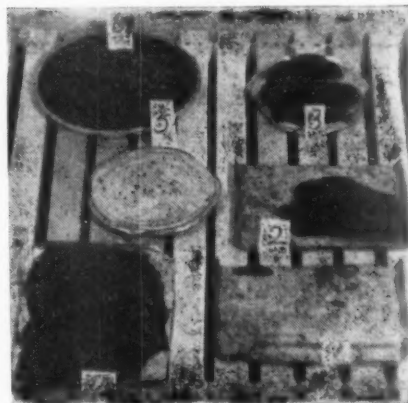
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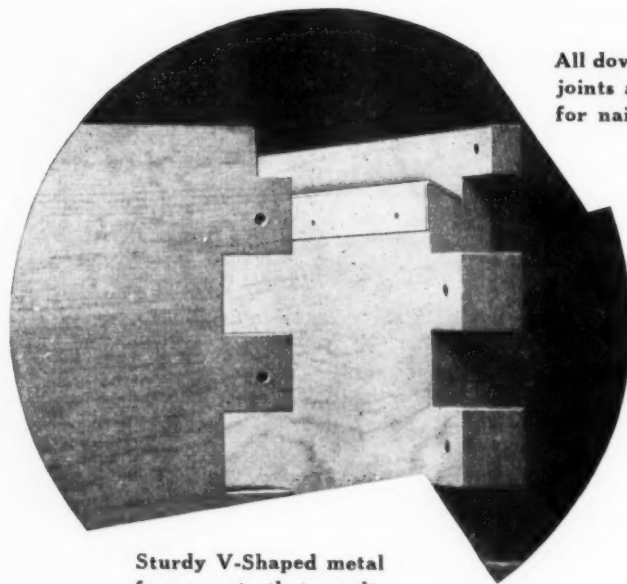
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— FEATURES —



CAN'T get away from John Allen and Son, West Lafayette, Indiana, when it comes to good cover subjects. Think this must be grandson, but the egg and the rabbit and the diapers make it a natural for Easter. The girl above is also from Allen. Girl is Susan Mayer, of West Lafayette; among apple blossoms of course. Now—inside—Dr. Schrag puts the inspector

into the sulfa picture in smart words. There are two sides to all things.—Ever try dry sugar feeding? After reading the manuscript from Brother Frederick, we went right to the bees and it works, about as he says it will. This hive heating is still a mystery but our colonies over controlled heat are showing some surprising results.—Space is too short for more comment. Other good ideas in this issue. Hope you'll like it.



The Use of the Sulfa Drug In Its Relation to the Inspection Service

By Dr. A. D. Schrag
Deputy Apiary Inspector Nebraska

THE feeding of sulfathiazole has been making much progress but the inspection service has been slow in adopting its use as a control for American foulbrood. The use of sulfathiazole is in an experimental stage and the results have often been judged in a somewhat one-sided manner. Investigators are inclined to look at the outcome of treatment only from the viewpoint of private ownership. They judge experiments in the light of direct immediate gain or loss to the owners of bees and pay little attention to the effect on healthy bees in each state as a whole.

Are not the interests of the beekeeper and the interests of the state inspection service the same? Is not what is best for one also best for the other? Yes and no. The aim of both is to have all bees active and healthy but the direction from which they approach this common goal and the steps necessary to reach it may be different.

So, the light in which the owner and the inspector view burning may vary considerably. To the owner the killing of a colony means the destruction of his source of income. To the inspection service it means the eradication of something dangerous. The owner's primary interest is to make his own sick bees well; the interest of the inspection service is to keep bees from becoming sick. The owner stresses restoration; inspection

stresses prevention. We must keep the interest of inspection in mind as well as the interest of the individual if we wish properly to evaluate sulfa experiments.

So far investigations of the effect of sulfathiazole have established two points. Sulfa treatment, although it clears up infection in the brood combs, does not destroy the germs of the disease. According to James I. Hambleton, "the drug cannot possibly destroy the spores that are hidden away in the hive where they remain dormant and potentially dangerous for a matter of years." In the second place, since the drug does not kill the spores it can not be considered a cure but only a control. American foulbrood is a bacterial disease and sulfa drugs serve only as bacterio-static agents, rendering the germs inert or dormant, keeping them from multiplying. As Frobisher in his "Fundamentals of Bacteriology" says, "sulfanilamide and related compounds have little bactericidal effect but act almost entirely as bacterio-static agents. They prevent the growth of bacteria but do little to kill those present. As soon as the bacterio-static agents are withheld the bacteria will grow. Administration of the drugs must continue until the patient is able to drive out the bacteria himself by means of phagocytosis or antibody formation or both."

In other words the sulfa drugs are not cures. they do not kill germs, they merely put them to sleep as it were and so constant application may be necessary. The sulfa treatment is merely a control and finds itself in the same class as the burning method.

Since the burning method, and sulfa treatment, are controls we can compare them and decide what each is capable of accomplishing. Let us compare the perfect burning job and a sulfa treatment job, each done by an expert. And let us compare the results from the standpoint of individual interest and of industrial interest.

If the burning is done effectively it destroys all germs completely and it will be an impossibility that the destroyed colony can ever again under any circumstances be a source of infection or danger to any bees anywhere. Of course it can never again be a source of honey or wax or profit, or an agency of pollination.

Destruction means loss and it is this loss which has aroused opposition and not the fact that it is not effective.

Is the loss such in the fullest sense of the term? Is it not a loss in the same sense that payments of insurance premiums are lost to the insured? This is the true light in which losses from burning appear when burning is correctly used by the owner. Every decent inspector re-

grets the destruction of bees and the consequent financial loss but when he looks at the loss in the light of service rendered he feels relieved. Burning of the comparatively few colonies is the insurance paid for the welfare of many.

How great are these losses? What is the ratio of bees killed to bees saved? According to reports from all over the country it is about 2 to 98, that is about 2 per cent. By destroying about 2 per cent of the bees we safeguard 98 per cent. This is the ratio, including not only the professional and careful beemen but the ignorant and prejudiced and benighted. The ratio of loss with the best beekeepers is invariably less than 1 per cent. Don't you think we would be indiscreet to discard an old tried control method which yields almost 100 per cent security and adopt in its place a new one still insecure in its effects?

Let us examine the new method. Spores of American foulbrood have invaded a colony; they have reached the inside of the larvae through the process of feeding by the nurse bees. An expert feeds the sulfa drug in the best-known manner, not only to the colonies infected with foulbrood, but also to all healthy colonies in the same apiary.

Before sulfa was used the spores reached the larvae in a normal way. However, when the colony is sulfa fed, the spores must pass through the medium of a sulfa-fed bee and are processed; and behold, they act differently. The spores are not killed, they are put into a bacterio-static condition in which they are dormant and lose their power of propagation, put to sleep as it were. While they remain in that condition they can do no special harm. And so we ask, as long as the spores do no harm and permit larvae to develop and emerge as healthy bees, what difference does it make whether the spores are dead or sleeping or playing possum?

However the bacterio-static effect is not permanent. To maintain it feeding must be continued. The possibility is that the condition of dormancy cannot be maintained even by constant feeding for a long time, certainly not indefinitely. Sooner or later a change takes place. One of two things will happen. Either the drug will get the upper hand and kill the spores, in which case the sulfa treatment will be no longer a control but a cure; or the drug will immunize the spores, that is to say, the sulfa

will render the spores immune to itself as a medication and they will once more evolve in their full vigor and potency, and perhaps become an even more virulent strain than they ever have been.

We see, therefore, what is happening to the spores inside of the larvae in the brood nest. The brood nest, however, is only a part of the brood chamber. All around it are cells in which honey is stored. In an infected colony this honey contains foulbrood spores, so a vital question is, what effect does the feeding of sulfa have upon the spores in the brood chamber adjacent to, but outside of the brood nest? Are these spores in the same bacterio-static condition as those in the larvae? No investigator claims to know the condition of the spores in this part of the brood chamber. All evidence, however, points to the supposition that sulfa treatment does not affect the spores outside of the brood nest. Even if it were established that sulfa exists in the stored honey outside of the brood nest put there by sulfa-fed bees another question would have to be answered. Are the spores in honey, which was handled by sulfa-fed bees in the act of storing, affected by the drug the same way as in honey handled by sulfa-fed bees in the process of feeding? In my opinion they are not.

When the house bee receives the load of nectar from the field bee and prepares it for storing it manipulates the green honey by working it over with its mandibles in a manner which seems mechanical. It does not add anything special to the honey. When the nurse bee prepares honey for feeding it is not mechanical, it is physiological. It contributes something from its own glands, from the very inner essence of its sulfa-fed being. Is it, therefore, not plausible that the spores in the honey will be affected differently by the physiological process of feeding than by the mechanical process of storing? We may have two different types of spores, therefore, in every sulfa-fed colony: the dormant spores in the brood nest proper and the active spores in the balance of the brood chamber.

Robber bees, if they attack such a colony, will not carry away dormant spores in the larvae but spores in the honey in their full vigor and potency. If the robbers in colonies are also being fed sulfa at the time they gather the active spores these spores will be

rendered dormant and no outbreak of foulbrood will occur.

But what will be the consequences if the nonsulfa-fed bees of other beekeepers within flight range of the infected colony do a little robbing from this same diseased colony? This should make us shudder. The only solution is that the neighbors' bees must also be fed sulfa in self-defense and then their neighbors' in turn and then again the beekeepers beyond and so on indefinitely.

It seems clear, therefore, that if we wish to use sulfa and approximate the same degree of security that we have in the burning method we will have to extend the practice indefinitely both in time and place. We shall have to feed and feed, here, there, and everywhere, by the inexorable rule of necessity.

When sulfa enthusiasts compare burning with the sulfa method they take into consideration only the actual fate of the 2 per cent of sick bees but fail to compare the potential fate of the 98 per cent of healthy bees. These proponents may not say it in so many words but they imply that if the 2 per cent of sick bees fare better under sulfa control the 98 per cent of healthy bees must also fare better. Such reasoning is illogical.

When you consider that the burning system of control is certain, simple, speedy and permanent, and the sulfa treatment is yet only experimental, uncertain, complex, temporary in its effects, do you wonder why the inspection service hesitates to change and persists in watchful waiting?

The inspection service will be able to replace the burning method with the sulfa method only when research demonstrates beyond doubt that the sulfa treatment kills all spores completely and utterly in every part of the hive. Then and only then will the sulfa treatment be superior to the burning method. Then it will no longer be a control, it will be a cure.

Big Business in Packages

A recent release by the U.S.D.A. indicates that a total of 1,300,000 pounds of live bees were shipped by the package trade last year. The prospect is for an even greater volume of orders this season. A total of 949,300 queen bees were sold during the same season.

Alabama ships more live bees than any other state, followed by Georgia, California, Louisiana, Mississippi and Texas in the order named.

Heating and Air Conditioning Beehives by Electricity

By E. L. Sechrist

SEVERAL people, in the past, have used electricity in an experimental way for heating beehives but no one seems to have gone at it scientifically until recently. However, I am now collaborating with a trained electrical engineer, who recently worked on the atomic bomb development, and am testing out the equipment he has developed during ten years of experimental work in using thermodynamic heating as an aid in wintering bees.

If this equipment lives up to its promises and does the work expected of it, and if we learn how to use it, the beekeeping industry may have ahead of it a development comparable to that which the use of atomic energy promises.

I now have one colony and a small observation hive equipped with heating units. A beekeeper friend who lives near by and has 700 colonies has put two hives on a heating unit and if all goes well he will equip more colonies and build them up to maximum strength for the orange flow.

When George H. Demuth visited California, he told the beekeepers here that they could easily get 200 pounds of orange honey per colony, in good years, if only they would winter their bees better so that they would have real colonies when the orange flow began, instead of having mere hatfuls of bees which could not do much more than build up to honey-storing strength on the orange flow, and then swarm. It was too bad that he did not live here long enough to tell us how to winter bees and have them as strong in California in the spring as he did in Indiana.

Our trouble here is that we leave a hundred pounds or more of honey on the hive in the fall, the bees will use most of it rearing brood in the fall and winter—for they can fly almost every day here and just enough fresh nectar and pollen keeps coming in to tease them along without any worth-while results. Then when the time does come that this hundred

pounds of honey should be used for rearing a great lot of bees for the orange flow, it is all eaten up and, besides, what bees are alive are mostly old bees, nearly worn out and almost useless in honey gathering.

When I was keeping bees in northern California, in the Sacramento Valley, I wintered many 3- and 4-frame nuclei on only a few pounds of honey, and compared them with overwintered full colonies which used 50 pounds of honey during the winter. If these large colonies wintered well, they bred up about a month too soon for the alfalfa flow and had to be fed or moved to some minor spring source to carry them through the period of dearth. Also, many of these had reached and passed the peak of development and were not in the best condition to store honey from alfalfa.

The nuclei, on the other hand, having only a few bees and a little honey, did not breed up into colonies too early, but were just reaching their peak at the time that the overwintered full colonies were going backward, and these nuclei made as

much or more honey than did the full colonies which had been wintered in two full-depth bodies.

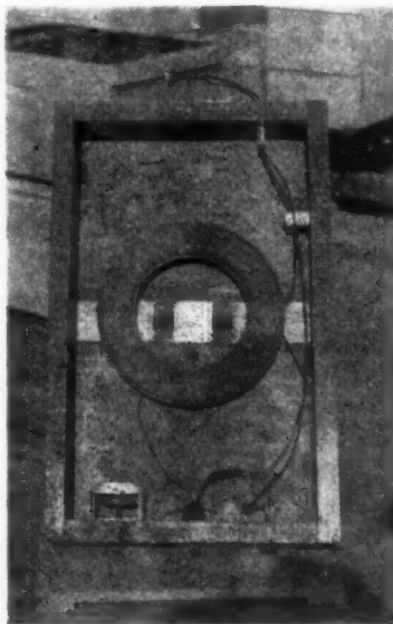
On the orange flow, beekeepers get an average varying from 20 to 60 pounds per colony, depending on the season. Sixty pounds is a good yield and if some beekeeper gets 90 pounds, he rather prides himself that he has done something worth while. Yet, in the back of his mind is the remembrance that now and then some beekeepers get a crop of 200 pounds per colony while the neighbors get their regular seasonal crop of 60 pounds or less. And he wonders why?

One young beekeeper said to me the other day, "Either I've never seen a real honeyflow or I've never seen a real colony of bees." And he was right about colony size. The best producing colonies here in California seldom have more than 15 pounds of bees in a hive. And the beekeepers think they could not control a larger colony, even if they could get it. Yet we do have honeyflows that will make an apiary average 200 pounds in a few weeks. Therefore it appears quite certain that there are too few bees to gather the nectar when good flows do come.

Let us consider a few figures. The difference between a 60-pound yield and a 200-pound average is 140 pounds with a value of \$17.50—and that is nearly all profit. Multiply \$17.50 by 1,000 colonies, and it makes \$17,500.00, a tidy sum that would pay, in one year, for a considerable amount of electrical heating equipment.

And now, if we take a nucleus or a weak hive of bees that would not be able to gather any surplus from orange and by the use, for a few months, of heating and air conditioning, which would give absolute colony control, and by feeding a pollen mixture, build that little colony up to 30 or 40 pounds of bees, in a big hive, and have them ready to gather orange nectar, what would be the result? Calculations say that 200

(Please turn to page 183)



A two-hive heating unit.



Rim, with cloth or paper bottom and front entrance, over food chamber, for feeding dry sugar when colony is short of reserves.

Feeding Dry Sugar

By Brother Frederick

WHEN the feeding of dry sugar in spring was recommended some years ago, I tried several ways of doing it.

Filling empty combs with sugar takes too much time and only one side of the comb may be filled. Pouring the sugar on the bottom board is easy, but in many colonies the sugar from the bottom board, as well as from the combs, is carried out and usually lost. Feeding sugar on top of the inner cover is not practical or advisable. Only a small amount of sugar can be fed and taking the small wooden block of the inner cover away to give the bees access to the sugar, will cause a draft in the hive. This may not cause any hardships to strong colonies in the summer months but, by observations made, I came to the conclusion that a draft in the hive is wrong, at least in the brood chamber and also in the supers where honey is to be ripened. The bees do not want it and if able to stop it, they will do so.

Feeding sugar in division-board

feeders may be all right, but to put them in the hive one frame has to be taken out. These frames have to be marked with the number of the hive or they will become mixed up in the brood chambers when feeding is completed. Any beekeeper who has had his fight with AFB will agree that this marking of combs is necessary, and if more than 75 colonies have to be fed, it requires too much work.

One day the thought came to me to make use of some wooden rims to feed the dry sugar. These rims were of standard thickness of boards, which fit the standard 10-frame hives in our yard and the plan worked out better than I had expected. Here is the way to do it: Remove the outer and inner cover from the hive, put two sheets of newspaper on top of the frames, leaving enough space in front so the bees will have easy access to the sugar. Put on the wooden rim and feed as much sugar as you want to. The amount of sugar to be fed

depends on the strength of the colony and the weather conditions. If the space is filled with sugar, a strong colony would have enough for two or three weeks. Not a single colony in my yard of seventy-five carried out any sugar when fed in this manner.

If the same amount of sugar is fed in the form of sugar sirup, good queens will start to lay with great speed and within 8 or 10 days strong colonies will again be starving.

Upon inspection all colonies fed with dry sugar had very solid brood, much better average than the rest of the colonies which had sufficient honey in the hives. I have never seen anything like it before in my 30 years with bees. Good queens, plenty of honey and pollen, as well as favorable weather in spring, may easily result in plenty of solid brood. The steady, slow flow of sirup made by the bees from sugar certainly gives a special impetus to queens and bees to

produce such brood, which will assure a good honey crop later on.

The feeding of dry sugar could be still further improved if a feeder could be constructed along the same lines as the Brother Adam feeder for sugar sirup. The feeding arrangement in the bottom could be omitted and an opening left in front for the bees to reach the sugar. If a strip of wood is nailed along this opening half the height of the rim of the feeder it would prevent the sugar from falling out or be carried out by the bees. It also would make the pouring of sugar into the feeder still easier.

Such a feeder could be of great service if queens have to be introduced when only a little or no nectar is coming in from the field. If there are no supers on the hive when a

queen is introduced, it always will pay to have such a feeder on the colony. Many good queens suffer from one cause or another when introduced, and usually the poor queen breeder gets the blame for it.

On account of the excitement and the robbing impulse of the bees when sugar sirup is fed, it often does more harm than good if used when introducing queens. Dry sugar, however, may be exposed to the bees for any length of time; they will take no notice of it. It is advisable, however, to feed the colonies 3 or 4 days before introducing queens, as it takes several days for the bees to learn how to make use of dry sugar. Possibly that is the reason why they throw the sugar out of the hive when sugar is fed on the bottom board, as it is more or less in their way. It is

easy to see that such feeders are more practical than the newspaper and wooden rims, as colonies could be inspected, if necessary, by merely taking away the feeder. If the colony is not in need of feed any longer, the feeder may be taken away and the contents saved. As packing on top of the hives for winter cannot be overdone, it is possible, for many sections of the country, that it would be sufficient to fill this feeder with good packing material and leave it on the colony for winter. It might be the only protection needed to secure good wintering. There is no doubt this is a very good way also to feed pollen or pollen substitute. It seems there is no limit for recommendation for these feeders.

Illinois

Feeding Substitute Outdoors

By J. S. Head

THE feeding of pollen substitutes in Arkansas, as practiced by J. E. Gooch, is as follows: 25 lbs. dried brewers' yeast is mixed well into 100 lbs. soy flour and placed in boxes properly sheltered from rain, and the bees help themselves which they do greedily. Cotton seed meal and wheat shorts are also sometimes fed and apparently make a good stimulant for early brood rearing. Mr. Gooch believes one or two pounds per colony of the soy flour mix will induce early brood rearing and will increase amount of brood in colony by one to three frames in February. We believe feeding should begin in January and a weak sugar sirup fed also, with sulfathiazole, as this drug does stimulate the queen to lay more eggs.

The only drawback to outdoor feeding is that the bees cannot take the feed when unable to fly. This is offset somewhat by their storing up a supply while it is warm. It is imperative that stores be watched closely as increased brood rearing consumes stores rapidly.



L. F. Childers, New Franklin, Missouri, father of sulfa, feeds bees dry pollen substitute outdoors. For best protection the feeder should be sheltered.

Bees fed anything in the open, be it sugar sirup or pollen mixtures, are at somewhat of a competition with neighbor bees in trees or hives. Outside feeding can be safely and economically done only in isolated lo-

cations. The strong colonies get the lion's share while good beekeeping tends to keep all colonies near equal strength.

Arkansas.

Electric Heating of Beehives in England

Dr. C. G. Butler, of the Bee Department, Rothamsted Experimental Station, Harpenden, England, has recently conducted experiments on the electrical heating of beehives, using a set of 24 colonies of bees, divided into three groups. The result indicates that the effect of heating colonies has

been to reduce the area of brood present in mid-April and to increase the consumption of carbohydrate stores, in direct contradiction to any belief in a beneficial effect on the colonies.

A full report, including tables and a description of the lamps used, appeared in "The Annals of Applied Biology," Vol. 33, No. 3, for August, 1946.

A Jar Feeder

As many beekeepers will be feeding the sulfa drug for American foul-brood this spring, I will explain how I made a cheap but handy inside feeder, which may be used for the purpose.

A small, shallow pan, 2 or 3 inches deep is necessary to make this feeder, the little chick feeders are about the right size and discarded ones may be used. Turn the pan upside down and lay a wide-mouth fruit jar ring on the center, marking around outside of ring with a pencil. Cut out the metal inside the pencil mark and drop the ring into the hole, upside down.

Now turn the pan right side up and fasten the ring to the pan with a few drops of solder.

Fill a one-half gallon wide-mouth fruit jar with sirup, put on a cap, a used one will do, with as many small holes punched in it as you think necessary, and screw the jar into the ring in the pan. Set the pan containing the jar of feed over the escape hole in the inner cover. Raising one corner of the hive cover is all that is necessary to see when it needs re-filling.

George A. Carter,
Missouri.



New Clover

We secured 150 root division of Pellett Clover last fall. They arrived the last day of the Iowa Beekeepers' meeting at Ames. They came almost by return mail but we ordered so late that time for them to become established before winter was an impossibility. We put them out the day they were received—the next day the ground froze hard. This was one of, if not the driest springs in our locality, I have ever seen. No moisture of any kind to speak of from the time the ground thawed in the spring until around the middle of June. But to go back a little. Early in the season green growth had started at the ends of the cuttings—then later green began to show above ground along the line of roots. We waited with apprehension since it didn't seem possible the cuttings would be able to survive once their supply of succulence in the root stocks was gone. They lay in a completely dry bed of dusty soil. Later after the rains began they started to grow. We felt that they had had anything but a fair trial because, to begin with, we planted the cuttings in very wet soil—we wouldn't have thought of transplanting in ground in that condition in the spring. The ground was not only baked hard on top but also to a depth of several inches which could only be broken by disturbing several inches of the soil each way. Finally we broke the baked surface for about ten or fifteen feet and it is here that the clover has obtained such an excellent foothold. It is spreading out in all directions in spite of a heavy matting of tall

garden grass. We are very enthusiastic over its possibilities. We plan to establish cuttings or seed along some water ways—we feel that once it starts growing it will not be easily routed by adversity of any kind. We hope we can secure some more cuttings to fill the row and we are going to be watching its progress with real interest.

Mrs. Elmer Timson,
Iowa.

Honey Containers

The lifting of controls on articles manufactured of tin plate has apparently created an upswing in the demand and manufacture of many goods made of that material. Because of this, the tin container manufacturers are unable to increase their output of honey containers and the situation is evidently critical. One of the larger manufacturers of tin can containers for honey is advising its customers that they will be unable to furnish any increased quantity of tin honey containers during 1947. Customers will be limited to the same volume of tin containers and shipments will be made during the same quarters as 1946.

Manufacturers of glass containers for honey are allotting to their distributors a percentage of the 1945-1946 purchases. This apparently will mean that glass will continue to be in short supply for at least the coming season.

As we see it, there will again be a heavier demand for honey containers, both tin and glass, than can be sup-

plied during the 1947 season. For that reason, it is advisable for the beekeeper who packs his honey to begin thinking about his needs and to make the necessary arrangements for getting his supply.

In regard to beehives and beehive parts, it had been hoped that the lifting of restrictions to a certain extent on lumber would mean an increase in the volume of wooden goods manufactured for the beekeeper. However, the result has not met expectations as practically all manufacturers of wooden supplies are having great difficulty in getting even a small percentage of the lumber that they need.

It is to be hoped that conditions will improve and that containers and wooden bee equipment will be available in larger quantities before too long.

New Bee Book From England

Another new book on bees comes to us from England. It is a small volume of 128 pages with numerous illustrations, entitled "The Key of the Hive." It is written by J. M. Dunning and published by Kingsgate Press, 4 Southhampton Row, W.C.I, London. The price is seven shilling six pence.

The author was introduced to beekeeping through the gift of a hive of bees by a beekeeping friend. The alarming prospect of the beginning was transformed into a delightful experience within a few months. The book gives a pleasing account of the experience and the information acquired with the growing acquaintance with the bees.

A Sure Way to Make Increase

By W. A. Lishman

INCREASE—that is the thought uppermost in the mind of the average beekeeper in the spring. With the prevailing price of honey if the necessary equipment is on hand, nearly every beekeeper will try to fill the empty equipment with paying colonies of bees. Some will use packages, but they are costly and may be hard to get at the time desired. So many will use their own bees for making this increase.

It is important that we use a sure-fire system and one that is not too hard to perform since this work is usually done when bees are liable to rob and the weather conditions are uncertain. The system I now use was conceived with all this in mind and experience has proved it to be nearly foolproof and weatherproof, excepting when the queens have to mate. With my system I have overcome the latter, and also improved the brand of queens as the queens raised can be of my own choosing. One of the things needed for this method is a mating board, which permits communication between the chambers, above and below, so the bees will have the same odor when it comes time to juggle the brood chambers with the different queens around.

Naturally, only the strong colonies are used to make this increase. Any that are weak have all they can do to be up to strength when the harvest time arrives. About the time cherry and plum are in bloom in my location, the frames of No. 2 brood chamber are shaken free of bees and queen, placed

in an extra body and set to the rear. In their place is put empty brood combs with darkest one in the center. An excluder is set on and the chamber of shaken brood put on for sealing. In 7 days all cells are removed and a frame of brood from a good queen is given, for raising a queen. Grafting will do but has to be a quick job since bees will rob about this time. The body of sealed brood is now placed above the mating board, with the entrance to the rear and blocked to the needed size. This entrance does not need to be very large since most of the bees will go down through the excluder and use the front entrance.

If the first step was done about the first week in May, say around the 5th, and 7 days later means of raising a queen were given, such queen would issue about the 24th of May and mate anywhere around the 3d or 5th of June, a good time when raspberry bloom has quieted the bees. This time insures success in mating up to 90% and never below 75%, even when the weather is bad. (Ontario).

It is now that one must be patient and not change the places of the queens too soon. I find it important that the young queen has most of her combs filled with brood, which she will do in about 2 weeks. This means that some measure must be used to keep the old queen satisfied and not starting preparations for swarming. When the white honey harvest starts, a body of extracting combs is put above the excluder, which has not been moved from the position it had. The

mating board is set on top of the extracting body so the two queens cannot reach each other. With the super between, there should be no difficulty in keeping both queens at full capacity in laying. About a week of honey gathering will quiet the bees so they can be handled easily and without any confusion.

By setting the mating board and the young queen super to one side, and the extracting super somewhere else, we are able to pick up the rest of the colony, bottom board and all, and transport it to another stand. A new bottom board is then set on the old location and the young queen chamber set on it with excluder next, or if the season is a good one, a super containing four combs, two on each side and the rest foundation, can be given, then the excluder. Sufficient supers of comb can then be given, or even supers of foundation will be worked very quickly.

A super is given the old colony which was moved away, and left for two weeks, after which it is worked as all my other colonies are. The No. 2 brood chamber is raised above the excluder for 7 days, then fixed above the mating board, with means of raising a queen as done before. Since it is late in the season the old queen will find sufficient room in the one body where she is kept till about the first of September, when both queen chambers are put together for winter.

Ontario.

Sugar for Bee Feed

Numerous inquiries come to us in the course of a month relative to the proper procedure in getting sugar for bee feed.

There has been no great change in the procedure from what it was a year or two years ago. Now instead of the application being made to the O.P.A. District Offices, it should be made to the Sugar Branch Offices, O.P.A., Office of Temporary Controls. This should be done for the district in which you are located, probably gener-

ally the capital of the state in which you live.

Application there should be made for O.P.A. Form R-356, revised Dec. 1945. This form can then be filled out and resubmitted. There should be no difficulty in getting 10 pounds per colony either for overwintered colonies or for packages, as the regulations provide that "each newly installed package of bees and each queen mating nucleus are considered to be a full colony, with respect to the securing of sugar for feeding bees."

We are inclined to believe that

many colonies will show shortage of feed this year and the 10 pounds of sugar so secured may not be sufficient. In such a case, an additional 15 pounds may be secured by applying to your local A.A.A. and have them confirm your request for additional feed.

In case any difficulties transpire, we suggest our writers direct their correspondence directly to Mr. Harold J. Clay, Chief, Honey Section, Special Commodities Branch, United States Department of Agriculture, Washington 25, D. C.

Introducing Queens

By Guy Diemer

FOR a long time we have been interested in the different methods of introducing queens. The kind of cage to use and why bees will accept a prolific queen when introduced by any of the regular methods of queen introduction has claimed a good deal of our attention. We admit we have no idea why a colony of bees will accept a prolific queen, but believe the most common mistake made in introducing queens by the candy method is to release the queen too soon. A queen released from the cage an hour or so too soon will not begin to lay as soon as one that has been caged a day or so longer than necessary.

The candy method has been for a long time the most satisfactory method for reasonably safe introduction of queens received by mail and probably will be for some time, but conditions must always be considered. If conditions are not good there is sure to be some loss with any system.

When using the candy method we like to use the amount of candy we think is right for existing conditions and time of year. In this location two inches of candy without a cardboard over the candy hole seems to be just right for spring and early summer. If there is a dearth of honey and robbers are bothersome, a little more is used. During the main flow from clover 1 inch is plenty. If the flow is heavy, colonies having queens introduced should be checked on the third day

and queens released if they have not been liberated by the bees.

After the main flow is over (late summer and fall introduction) if 3 inches of candy is used the queen will be released in 3 days regardless of the kind of flow there may be. During the longer nights of late summer and fall, bees will eat out 1 inch of candy every 24 hours and queens introduced with 3 inches of candy will begin to lay sooner than those introduced with 2 inches of candy. Our experience has been the acceptance will be almost perfect with 3 inches of candy while those introduced with 2 inches of candy always had some loss.

Laying queens can be changed from one colony to another as you please, no introduction necessary, in this location beginning almost exactly the first day of August and until the last days of September, providing there is enough honeyflow so the bees are fairly quiet. We use this method: remove the queens from colonies to be requeened, mark the hives and the same day, or any time within the next 3 or 4 days, let a laying queen run in at the entrance, using a little smoke to drive worker bees out of the way. This must be a laying queen at the time she is introduced. This system will not work on queens that have come through the mail.

We have never used this method on a vicious colony and doubt if it will

work when taking queens from one yard to another, as by the time the queens were caged and taken to another yard they would probably cease to be laying queens. We have introduced about one thousand queens by this method the past 8 or 10 years with good success. Most of the queens keep on laying, although some will quit laying for a few days.

There seems to be only one variation to this system and that is what is usually called the nucleus system of introduction and queens so introduced will usually be accepted regardless of conditions. Remove queen from colony to be requeened, take out one frame of brood with adhering bees and at the same operation take a frame of brood from a nucleus with adhering bees and queen and put it directly into the colony being requeened. The frame of brood taken from the colony goes into the nucleus. This system works fine here in August and September only.

It is considerable work to introduce queens by the newspaper method but there is probably no better way to introduce laying queens. After removing queen from colony to be requeened, swiftly place a nucleus with a laying queen in an upper story with a sheet of newspaper between with one or two small holes punched in the newspaper so bees can eat their way through.

Missouri.

Late Package Season

Southern queen breeders and package shippers report that the season has been backward and that they are very late in getting spring operations under way. Indications are that package shipments will be late and many customers will be disappointed.

February and early March was unusually cold and wet and brood rearing was slow in reaching normal proportions. The weather is beyond the ability of any man to control and the shipper cannot be blamed for the backward season. Breeders have been

doing all they could. When they resorted to stimulative feeding in an effort to speed up brood rearing the bees failed to respond. There was nothing to do but wait for favorable weather even though shipment might be later than either shipper or buyer wishes.

Honey and Beeswax Importations in 1946

Government figures are out on the importations of honey and beeswax during 1946. The total for honey including honey imported from Puerto

Rico and Hawaii is just slightly under 20,000,000 pounds, while the beeswax imports are 6,373,394 pounds.

On the other hand, exports of honey are approximately 200,000 pounds. The value per pound on honey imported was approximately 15 cents and on the beeswax between 46 and 47 cents.

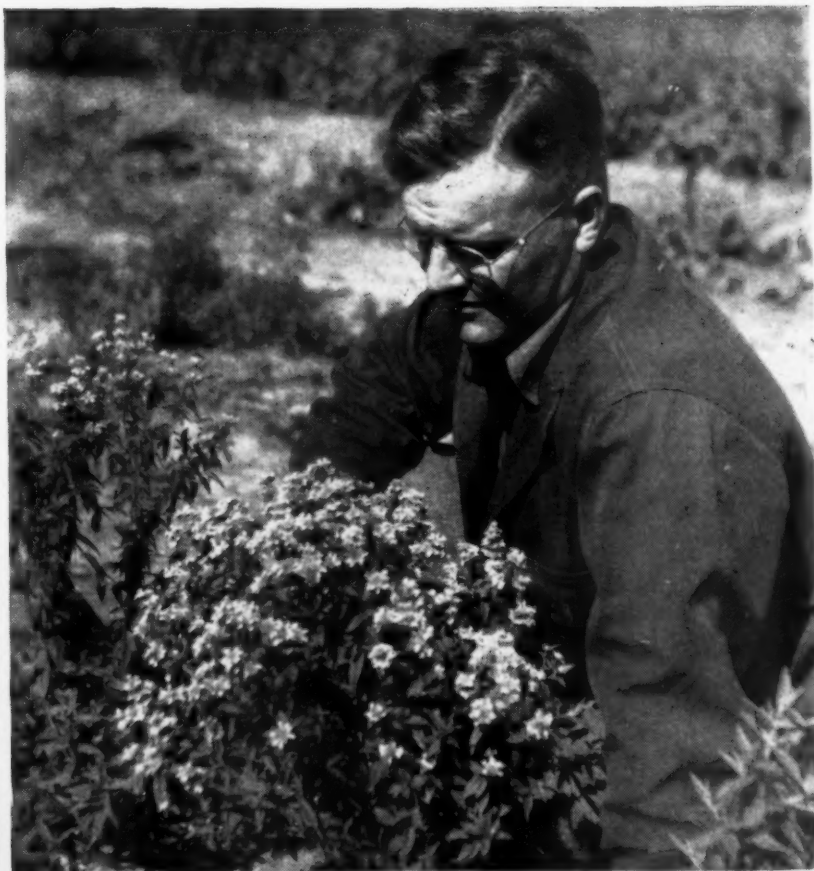
Our heaviest imports came respectively from Cuba, Mexico, Chile and Argentina, with Cuba sending us nearly 9,000,000 pounds. On beeswax, Portuguese, and Angola ranked as first with Brazil, Ethiopia, Chile and Dominican Republic and Cuba following in order.

Mountain Mint

By Frank C. Pellett

A promising plant which may provide a new crop for essential oil as well as bee pasture.

Melvin Pellett beside a plant of mountain mint, gives you a fair idea of the size of the plant. There are about 100,000 florets in one well grown plant. The lower picture is of a clump of mountain mint in September from seed planted in March.



OUR plant explorers have gone far afield in their search for new crops. Many new plants have come from countries across the world while little attention has been given to seeking new uses for our native plants. It seems very probable that when we get around to making a careful study of new uses to which native plants can be put, we may bring a revolution to American agriculture.

It has been estimated that it would

require a million acres of land to grow the plants necessary to produce the essential oils that we now import. Sixty different industries are said to depend upon imported essential oils as a part of the raw material entering into their products. The retail value of the output of these industries runs into billions of dollars.

The variety of the products is very great, running into hundreds, and ranges all the way from chewing gum

to soap. They include ointments, creams, cosmetics, tooth paste and insecticides. Soap is the largest user of essential oils.

There is a small industry in the production of essential oils in this country. It is largely confined to Michigan and Indiana and to California. Peppermint and spearmint are the two plants most commonly grown for this purpose.

In Oct. 1940 I was attracted to a clump of mountain mint near the top of a rocky knob overlooking Current River, near Round Spring in Shannon County, Missouri. It was taken to our test garden at Atlantic, Iowa, to be added to our collection of mints. When it came into bloom the following summer it was found to be *Pycnanthemum pilosum* which may be found growing wild from Pennsylvania to Kansas and Arkansas. It grows in half-shady locations in woodland borders, usually near the top of rather poor hills on north or west exposures.

The plant comes into bloom in late July and lasts over a period of several weeks. The bees work the flowers eagerly and in favored localities get a fair crop of rather strong, amber honey. A single clump when well

grown will have about a dozen stems with dozens of heads on each stem. With about 200 florets in each head there may be as many as 100 thousand flowers on one plant. The one which I counted had 211 flowers in one head, 81 heads on one stem and eleven stems in the clump or a total of about 188 thousand florets on the one plant.

The bees were attracted to the flowers to such an extent that we decided that enough increase should be made to permit a study of its value for some purpose besides bee pasture. The leaves have a very agreeable and pungent odor and we are told that the Mesquaki Indians make use of it to scent their traps when catching mink. Both the root and the leaves are used by them for medicine. From the leaves they make a tea for use as an alternative and an infusion of the tops taken to cure chills and fever.

In the summer of 1945, Prof. Arthur Schwarting, of the College of Pharmacy, of the Nebraska University, paid a visit to the test garden. He became interested in this prospect and we cut the plants from an area of one and one-half square rods for processing. By distilling this fresh material he secured two pounds of essential oil which is a very high yield. Investigation disclosed that the oil is high in menthol which just then was in short supply due to the fact that war had cut off the usual source in Japan.

To test the matter further the same area was cut again in the summer of 1946 and similar results obtained from distillation. This second test confirmed the prospect that here we might have a new source of essential oil which can be cultivated with profit.

Since the wild plant is found on high lands with thin soil it seems probable that it might serve as a source of income for farmers who do not find their soil strong enough to grow profitable crops of the staples commonly cultivated.

Many inquiries have been received from those who vision large profits from the cultivation of the new crop. Much remains to be learned before it is safe to invest time and money in its culture. First it must be remembered that the essential oil which it yields is not the same as that now commonly used in the market. It must be determined what purpose the new product will serve, what will be the cost of cultivation and distillation and the probable yield under field conditions. A heavy yield on a small area in a test plot may not always

make possible a similar yield in a large field under ordinary tillage. The extent of the market must also be determined and when this information is available stills to process the material must be established.

The prospect is so promising that the Sioux Honey Association, a co-operative group of large-scale honey producers, has provided the funds to enable the University of Nebraska to conduct a careful study of all the problems involved. It is proposed to make a further study of the oil produced by the plant to determine fully its chemical content and the profitable uses to which it can be put. The problems to be met in planting, cultivation and harvesting must be understood and the probable market must be investigated.

The Sioux Honey Association is supporting every agency whose objective is the improvement of the lot of the beekeeper. For many of its members, the bee pasture problem is serious and it is hoped that the finding of new crops suited to the agriculture of the region may provide new sources of nectar for the beemen.

Over optimism is a common failing when contemplating the prospect of any new venture. Until the results of the proposed research are available it would be unwise to make any estimate of the probable returns from the culture of mountain mint. It would seem, however, that from the present price of essential oils in the market, the extent to which such oils are used and the high yield from the small area in the test plot, there is a good chance that a profitable crop may be developed.

In the meantime those beekeepers who like to experiment with new things may find satisfaction in a trial plot in their gardens. If a substantial demand should develop they may find it much to their advantage to have a start of the plant and to know something of its adaptation to their peculiar conditions. Beekeepers have long been interested in such projects and their curiosity and interest have greatly assisted in the propagation of a number of plants which later became important to American agriculture.

Should mountain mint come into cultivation as a source of oil it will probably be necessary to harvest the crop at the height of bloom. The cutting will remove the chance for further bee pasture for the season but there should be good pasture for a time in advance of the harvest. The time of cutting, in order to secure the

largest yield of oil, is one of the things that must be determined by actual trial.

With an indicated yield of about 200 pounds of essential oil per acre it should be possible to cover a relatively high cost of cultivation and harvesting and still show a profit. Processing plants will be necessary but it may be possible to make use of equipment designed for other uses at a time when not otherwise active. Soybean mills might easily serve by the addition of a limited amount of special equipment. However, it is a bit early to speculate until more is known about costs and yields and markets. Prof. Schwarting will find much interest in the progress of the investigation on the part of many beekeepers.

American Foulbrood Data

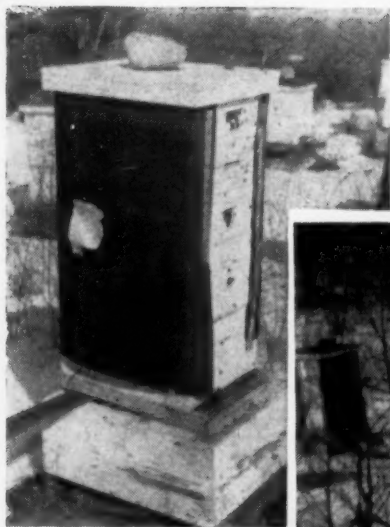
We have to commend the Tampa Bay Beekeepers Association, and the chairman of their foulbrood committee, F. S. Houston for a very complete report of foulbrood conditions in the United States. Mr. Houston was able to collect data on 1945 disease from 39 of the 48 states.

The states reporting showed a total of 4,421,099 colonies of which over a million or 23% were inspected in 1945. About 22,000 of these colonies were diseased or an overall percentage of 2.2.

Lack of sufficient funds was given by inspectors as the main deterrent to more complete eradication. The report recommends greater effort on the part of beekeepers to get more funds, state appropriations to be matched by government funds; that greater effort be made in increasing enrollment of beekeepers in local and state beekeepers associations; and that 100% inspection be demanded each year.

One factor not mentioned in the report, which would tend to decrease percentage of actual disease is that in practically all states inspection is done in only the worst infected areas. Also in commercial areas inspection is left largely to the beekeepers themselves unless the inspector is requested.

The report is too long for complete inclusion in our columns, but we are sure that Mr. F. S. Houston will be glad to mail copies on request. His address in Tampa is 705 Madison Street. The committee hopes to continue the investigation for the 1946 year.



Colony with tar paper on three sides, with four upper flight holes; late February on a sunny day. Such a colony makes two or three rental colonies of eight frames each, by fruit bloom.



Partial view of an apiary packed in honey. These bees are used for pollination and the colonies must be strong in April.



Renting Bees for Pollination

By R. E. Newell

Colonies assembled in a central location so they may be loaded on trucks for transportation to the orchards.

THE bee magazines, fruit growers' publications and the State Extension Service circulars have been filled with fine articles on why the honeybee should be used as the chief pollination agent for large fruit orchards. It would appear that there is little more to be added, to stress the need for bees in commercial orchards. The writer has visited many large orchards during the blossoming period to observe the number and variety of wild insects at work on the blossoms. During some seasons when the temperature is high, while the trees are in bloom, the number of wild bees, etc., are sufficiently numerous to give a fair set of fruit, but never enough to give a good cross-fertilization where the area in bloom contains many varieties that are self-sterile. It is not often that the weather is warm during the period of bloom. Some seasons it rains during the greater portion of time the trees are in bloom, and many insects that normally work on the fruit blossoms in search of nectar and pollen are not active. Unfavorable weather often prevents honeybees from flying as freely as could be desired, for at temperatures below 50 degree F. the nectar content of the blossoms is not high, and honeybees do not work with the same enthusiasm when nectar is lacking. The

nectar content of some varieties of fruit is much higher than in others, and therefore differ in their attractiveness to bees.

The cold weather during the fruit bloom period in New England during the 1945 season caused one of the most serious losses in fruit that had been known for many years. In the higher altitudes, where the orchards were located above the frost, the bloom did not freeze but failed to set properly, due to lack of insufficient activity of insects due to the cold weather. July 17 of that year I received the following letter from one of my customers that emphasized the value of the honeybee, beyond anything I might be able to express. "You are probably as well aware as I am of the light apple crop this year. I feel that most of our damage is due to lack of pollination on account of the weather being such that the bees could not work.

"Up here, 800 to 900 ft. elevation I don't think the frost injured the blossoms much. I have a feeling that we should have more bees in the orchards for abnormal conditions. Trees that were near pollinizers have a fair amount of apples, and the

apples taper off the farther you go from the pollinizers, showing that more bees would have done more work.

"My next door neighbor also has a good sized orchard and will need about 20 swarms next year, and I would like to take care of him. I shall need 30, which will make a total of 50 swarms. If we have to transport them, he has plenty of trucks and my man can be trusted to take care of them. I shall be glad to hear from you, as to whether you can take care of me and my neighbor."

Another customer, because of the off year, (the orchard fruited heavily in 1944 and a light bloom was expected) reduced his rental to 12 colonies instead of 26. He had a fair set of fruit on scattered trees in his orchards, but realized that he made a mistake and ordered 30 colonies for the season of 1946.

Making Up Colonies for Rental

The writer has found that it is not practical to rent colonies of bees for pollination that are too powerful, especially where they are to be transported some distance by trucks, and are to be handled by men not accustomed to working with bees. The

losses involved are too great to make the rental profitable. Therefore all colonies are divided equally so that each rental contains eight brood frames (standard) of bees and brood. If the frames are not well covered with bees of all ages, a pound or two of queenless bees are added to make them uniform. Queenless package bees are always added if there are many newly emerged bees among those in the hives. Each rental package must contain five or more pounds of bees of field age, three or four weeks old. The newly emerged bees are of value in the hives to attend to the normal hive duties, such as comb building, and care of the developing larvae, but where their numbers are made up out of proportion to the field bees, the colony does not make a good rental. The greatest activity is in colonies containing large amounts of unsealed brood. The field bees will work with much greater enthusiasm, and will fly out in the most unfavorable flying weather where the queens are laying heavily and there is much brood to be fed and cared for.

The two side frames in the rental colony should contain almost full combs of honey in addition to what honey may be contained in the upper corners of the other eight brood combs. This honey is an insurance against starvation of the colony should the nectar secretion be below normal, or the weather be unfavorable for flight, during the period of bloom and following the bloom.

Each rental colony should be provided with ample storage space for incoming nectar and pollen. A single hive body is not sufficient room for brood rearing and storage when it already contains eight full combs of brood, and two combs of honey. I have always practiced placing a shallow or full depth body of empty combs on all rentals. Some seasons these empty supers are filled during the week or ten days the bees are in the orchards. Without this additional storage space the colony would be blocked with honey, which would induce swarming or loafing. Queen excluders are not used but the queen is allowed to go above if the lower frames become crowded.

I have found that this additional room offers a fine clustering space while the bees are being moved and greatly reduces the danger of overheating and smothering while in transit. I have lost several colonies not provided with supering space

while thus being moved to and from the orchards. Therefore aside from the benefits of greater pollinating value, empty supers should be used to protect the bees.

When the colonies are wintered in two or three full-depth hive bodies it's much easier to make them up into rental colonies. New queens are ordered from the South to arrive the last of April. Extra bottom boards, inner covers, and standard covers, and a good supply of regular 2-inch hive staples are prepared in advance. Entrance screens are also made up in advance. These are made of galvanized fly screen of a width to fit snugly across the full width of the bottom board. These strips are cut about five inches wide. The portion that is to comprise the top is folded one inch at right angles, the balance of four inches is bent to form a U and this U is pushed into the entrance of the hive. The spring of the galvanized wire holds it in place without the use of nails, and the upper portion that was folded at right angles, holds the upper portion from going in too far, and prevents the bees from making a way out. It takes only a few seconds to put them on a hive.

With the above supplies at hand the job of making up the rental units is begun, if possible, a week or ten days before the bees are to be sent out. The strongest colonies are worked first. These colonies have sufficient bees to fill two standard hive bodies at this time. The upper body is removed from the colony and set on a bottom board, and the entrance screen is put in place. The queen is found generally in this upper body. Several frames are removed from the hive body on the original stand, and then the queen is given back to the old or parent colony upon the frame she is found laying. Then the brood is divided as near equally as possible, but giving the new division or rental most of the sealed brood and making certain that at least one comb of eggs is present in case the new queen isn't accepted. Allowance is made for the field bees if the colony is flying freely. If necessary two or three frames of bees are shaken into the new unit or rental to make them equal. Eight frames of brood and bees must be present in each unit. If there is not that amount present in the colony, frames of brood and bees are taken from a colony that may have more than eight frames of brood and bees but not enough to make a full division. Bees taken from such colonies do not

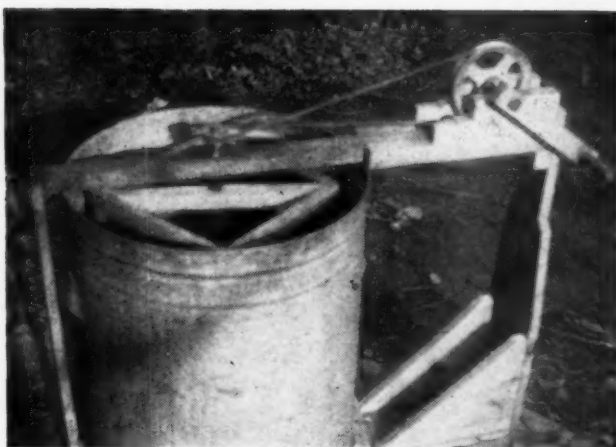
appear to fight when smoked upon uniting. When the new division or rental is made up, a queen is introduced by the cage method. The hive is securely stapled to the bottom board and the unit is given an empty shallow or full-depth super at once. The super is also securely stapled to the hive body and the inner cover and top are put in place. An empty super is then put on the parent colony, and this may be also stapled but generally this work of stapling is left for another time.

The balance of the apiary is equalized as rapidly as possible so that the divisions that are screened up do not have to remain in this condition too long. If shade is available these made-up units are put out of the sun if the day is hot although there is not much danger of injury. When the bees are all made up, the new divisions or rentals are loaded in a truck and transported to a central location, and the bees released at once. This should be at least two miles away from the former location or the field bees will return to their old location. Should this take place, the new division would lose most of its value as a rental for the young bees in the hive are of little value for actual pollination. Then too with the loss of so many bees, the frames of brood would be improperly covered and much of the young developing brood would be chilled. When removing the entrance screens, a few puffs of smoke from the smoker a few seconds before pulling it out saves the operator from stings.

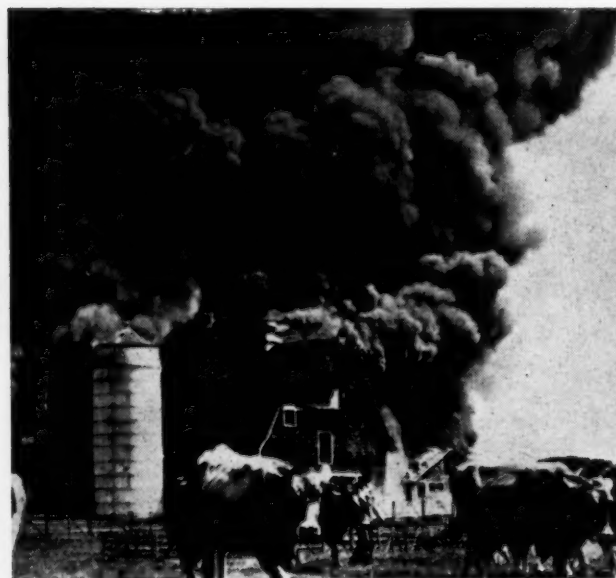
When queens are not available for the new divisions, I have had very good success by making up a few divisions from the very best colonies about 10 days in advance of the regular time, selecting frames of brood that are mostly all sealed with the exception of a few eggs along the bottoms of the frame. Eight or ten such frames to the hive are thus made up as queenless divisions. These very strong units will build some fine queen cells. Care should be taken that such units have sufficient honey, and if no fresh nectar is available from the field, feeding with sugar solution will stimulate the bees to build up fine cells. On the tenth day and not later than the twelfth, a frame containing such fully developed queen cells may be given to each new division in place of a young queen. This method has been successfully used several seasons, with excellent results. The same care must be taken with these queen
(Please turn to page 183)



J. A. Munro, North Dakota Agricultural College, snapped this one of Bennie Gilbertson, with Mrs. Glibertson and baby, Zeld Laverne, just before the Gilbertsons took off for Florida. A good trailer house makes winter a vacation time for them.



Frank A. Campbell, Minonk, Illinois, made this extractor when new ones were scarce. A local tinner made the can. Campbell molded the bearing of type metal; soldered and brazed it into the center of the can. A half inch rod for shaft, two V pulleys and a round belt; cage frame of wood with quarter inch screen. And "the darn thing works."



The National Fire Protection Association, Boston, once again sponsors a spring clean up campaign. Farmers know spring brings fires. This can happen to you. Keep the barn clean. Rake leaves and weeds away from buildings. Don't burn on windy days. Common sense will prevent 90% of all farm fires.



Again young Killion scores a picture; the beautiful exhibit of Hoyt Taylor, Pleasant Plains, Illinois, at the 1946 Illinois State Fair. Winner of first prize for booth.



Philpott Brothers, Brooks, Alberta, go for packages in a big way. These just arrived from Winfield Gear in California. An expert at hiving can easily introduce hundreds of packages a day.



Leon Skiba, Rademysyn, Sanem, Poland, packs this way; bundles of straw tied about the hives. This is much the same as the old straw or leaf pack in the Dadant yards. Skiba had over two hundred colonies before the war but his yards were ruined in the fighting.

— DEPARTMENTS —



JOHN ALLEN and Son certainly shot straight at country hearts when they caught this young man at the mailbox. Is it that new spring catalog? With flowers in color? Might be. Perhaps it's the new

bee supply catalog. Likely it is, and if dad finds hives and parts he is sure to order. They seem scarce as hen's teeth. How about a little spring fever in the "How-To-Do-Its"? Got something up your sleeve?

HOW TO DO IT

One Way to Feed a Pollen Substitute



This shows how I feed the bees a pollen substitute before they are unpacked. I use a calking gun with an 8-inch extension of 1/2-inch copper pipe which is inserted in the upper winter entrance. I get plenty from this "How to do It" department page and I am happy to contribute something for it.

E. S. Westfall, New York.

QUICK PAINTING

Three years ago I had hives to paint. I had a galvanized pan made, 24 inches long and 21 inches wide and 3 inches high. I mixed up an inch and a half of paint in the pan and turned the hive bodies around in it.

I do the painting in the basement and I have a furnace poker hanging over the pan and two spikes in the rafter. I then can have three hive bodies dripping in the pan at a time. I have about sixty spikes in the rafters for sixty hive bodies to hang and dry.

By dipping I find the paint does not peel off of the outside and my inner covers do not warp out of shape. The bees winter better because the

inside of the hive is not wet any more.

When you have disease in the hive body, paint remover will remove the paint from the inside and then you can dip it again and be ready to go.

David Nevelier, Wisconsin.

BUCKWHEAT STRAW IN THE CELLAR

This will save considerable work and no bothering of the bees for those who winter in a cellar and have trouble with water getting in. Just open the door for good ventilation, spread three or four inches of buckwheat straw all over the floor. The straw will keep the humidity down since it is compact. After the water has subsided sufficiently and the straw has been placed thickly enough on the floor so that the top is dry, close the door tightly and you will find the bees will be safe for the rest of the winter period.

Bruno Racine, Canada.

FEEDING IN COMBS

The best way to do this is to punch small holes one inch apart in a half-gallon or gallon sirup pail. Suspend the pail on bailing wire or binder twine. Place the combs to be filled in a galvanized tub flat down, pour sirup in pail and go slowly over the combs about a foot above them, forward and back. The thin streams of sirup will force the air out of the cells and fill the combs quickly and fully. Turn the combs over and repeat and then set the combs in another tub to drain off, then they may be used to feed as needed.

John C. Wallenmeyer, Ind.

SMOKER FUEL—FOUNDATION STICKING—CANS FOR WAX

Those who do not care for used oil filter waste for smoker fuel can light other materials readily with a scrap of "glass cloth," new or old.

The man having trouble with foundation sticking to an embedding board can avoid it by covering the board with muslin and wetting it each half hour when in use.

Old 60-pound cans used for wax

containers are more satisfactory if one cuts out the bottom and uses them upside down, thus gaining a handle by which to carry or hang them.

Roscoe G. Cook, Iowa.

TO KEEP FOUNDATION FROM STICKING

Sprinkle finely ground meal or flour on the board on which foundation is being cut to keep the foundation from sticking. A small amount is enough.

Fred Wilcut, Alabama.



Protecting Yard Feeder From Animals

I had trouble with possums drinking up the sirup from my yard feeders. I made this wire basket to put over the feeder. The feeder itself is an old sixty-pound can with the top cut out and a wooden float like the one shown. It is a good water can. Animals cannot get at it. Be sure the wooden float is small enough to be free and not bind on the bottom of the can. The can will not rust if it is waxed.

James N. Seys, Texas.

WHAT YOU WANT TO KNOW

Mrs. E. C. Close, New York, wants to know if the brewer's yeast that is being furnished for the making of pollen substitute is fit for human consumption.

G. B. Perlstein, of Papst and Company, who make the yeast, answers us as follows:

"The yeast that we are furnishing for the making of pollen substitute is fit for human consumption in cleanliness, vitamin values and for its proteins, but since it is not debittered it is not as palatable as the debittered yeast. We have a better tasting debittered variety which will keep if stored in a clean dry place and the package kept tightly closed. It is the kind commonly used in food and in 5- or 10-pound quantities it is priced at 50 cents per pound.

* * * *

Mr. A. H. Blank, South Dakota, wants to know how many bees would be necessary to pollinate adequately 70 acres of alfalfa for seed.

George F. Knowlton, of the Utah State Agricultural College, answers as follows:

The number of colonies of honeybees you would need for this would depend on:

1. The number of wild bees which now are present and available for pollinating legumes in your area.

2. The number of honeybees already located within a mile or so of your alfalfa seed fields.

3. The extent to which corn, white sweet clover, and other important pollen producing plants are present at the time alfalfa blossoms must be pollinated. Attractive pollen plants of various kinds will reduce the efficiency of bees as pollinators of alfalfa.

The more bees present the better, so far as pollination of alfalfa seed is concerned. If sweet clover and other attractive pollen plants are scarce in the area two colonies per acre might give excellent pollination.

I would suggest that if you could interest a large beekeeper to bring in 150 or more colonies during the period of blossom this would be more satisfactory and profitable in seed production than for you to buy or operate the colonies yourself. However, I think it would be fine if you did

operate a few colonies and after you have them a few seasons you could decide for yourself to what extent you wish to have bees in connection with alfalfa seed production.

You are correct in assuming that strong colonies are more effective in alfalfa and fruit pollination than the same number of package bees or a similar number of weak colonies. A few hives of bees would not ordinarily secure a maximum seed yield on 70 acres of alfalfa unless numerous wild bee pollinators were present.

* * * *

William Rueter, Jr., Washington, has asked about the mountain laurel as a honey plant and about the poisonous quality of the nectar.

Dr. V. G. Milum, of the University of Illinois, answers:

"Dr. L. H. Pammel, in his manual of poisonous plants, says that it is reported that honey collected from the mountain laurel appears to be poisonous under some conditions. Most of the cases of poisoning according to Crawford who investigated the mountain laurel, occur in winter. Animals eat more of the leaves in winter in the absence of other green materials. The plant is very much dreaded in the Alleghany Mountains. The poisonous substance, andromedotoxin, is found in all parts of the plant.

The California mountain laurel is said to be poisonous to sheep in Oregon. The andromedotoxin is very poisonous, even more so than aconitin, and more emetic than emetin.

Andromedotoxin is a peculiar crystalline substance, easily dissolved out of the plant by cold water or by alcohol. It is even more poisonous than strychnine. The honey derived from the nectar of the flowers appears to be poisonous under some conditions."

I would suspect that the amount of poisonous honey that might be stored from the laurel would be dependent upon the prevalence of other nectar-bearing flowers at the same period of time and whether the nectar from this laurel would be used for brood development and colony maintenance or whether it would become a part of the surplus.

Father M. Bede O'Leary, of the Abbey of Our Lady of the Valley, Rhode Island, asks an interesting question. He wonders how many bee hours it takes to keep the candles burning throughout the year on the Catholic altars.

Well, that's a poser. Let's get at it this way. Say one bee makes 20 trips a day of a mile and a half each and works about 20 days during her life. During the busy summer time the bee actually wears itself out in about that length of time. This would make a total of 600 miles per bee. It has been estimated that bees fly about $1\frac{1}{4}$ times around the world to produce a pound of honey. Dividing 33,000 miles by 600 miles per bee, makes 55 bees to produce one pound of honey. Bees have to consume about 15 pounds of honey to make one pound of beeswax so it would take 825 bees to produce one pound of wax. Each bee probably works around 12 hours a day during its 20 days of life, making a total of 240 hours. Then 825 bees at 240 each would be about 200,000 hours to produce one pound of wax.

I'll guess with you as to how much beeswax goes into production of mass candles, but if it's a million pounds, it would require a total of about 200,000,000,000 bee-hours of work.

We would not care to sign an affidavit to the above, but you can take it for what it is worth.

* * * *

Honey from Cranberries

Can you tell me if the bees get surplus honey from cranberry bloom and what would be the flavor and color? In my part of North Carolina there are wild cranberry bogs. No one bothers about the berries except the natives who live near them. They pick and can all they want but none are shipped or sold. I have never tried bees on the bogs but am anxious to know if they produce surplus honey—G. H., North Carolina.

Answer—Although the bees visit the blossoms freely we have never been able to learn of any locations where the beekeepers secured an important surplus from cranberry blossoms. The bees are regarded as important in securing pollination.

American Honey Institute

Commercial State Bank Building,
Madison 3, Wisconsin

"Wake up, there's honey for breakfast." Yes, HONEY FOR BREAKFAST WEEK is nearly here. Beginning on Easter Sunday there will be a whole week in which thousands of homemakers will be serving special breakfast dishes made with honey.

The American Honey Institute is making sure that all these homemakers are supplied with plenty of ideas for celebrating HONEY FOR BREAKFAST WEEK. Special releases featuring breakfast combinations, some new and unusual, some old and familiar, but all delicious and nutritious, are being sent to newspapers, magazines, and radio stations. Food editors and directors of radio programs are now receiving hints and helpful information on the general use of honey and its nutritional values to help them in preparing special articles and programs in observance of HONEY FOR BREAKFAST WEEK.

The Institute is also filling orders for leaflets to be distributed in honor of this national event. We are pleased to announce that our new printing of "Honey to Start the Day Right" has been completed, and is available to you at 60 cents per hundred. It's a natural choice for HONEY FOR BREAKFAST WEEK.

Other leaflets which are especially appropriate are "Honey and Cereals" (60 cents per hundred) and the eight-page folder, "Two Sweet Gifts from Nature, Citrus Fruits and Honey," (\$1 per hundred).

Order your supply of these leaflets now. Make certain that honey will be on every breakfast table during HONEY FOR BREAKFAST WEEK.

A full page was devoted to our leaflet, "Make Every Meal a Guest Meal with Honey Recipes," in the March issue of the magazine, "Home Circuit."

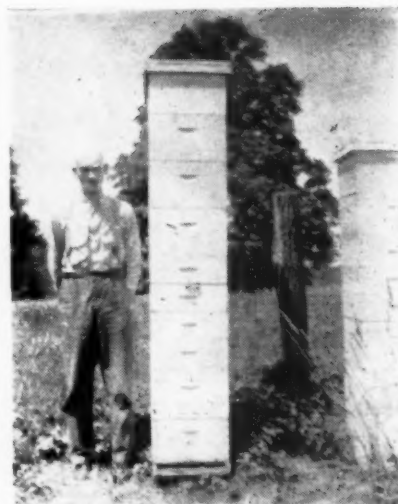
Using a petal as a landing field, a bee coasts in for a landing at one thirty-thousandths of a second. That's really going some, isn't it? The leaflets sent out by the American Honey Institute are really going some, too. One morning recently we filled requests for free literature from women in New Zealand, the Philippine Islands, Puerto Rico, South Africa, Egypt, and Canada, as well as many in the United States.

On April 17, the Institute will broadcast on the timely subject, Honey in Spring Menus.

The members of the American Honey Institute start a veritable chain reaction when they make it possible for us to send out free literature to homemakers. This literature gives women new ideas for using honey and points out the additional advantages offered. They increase their use of honey, and thereby their purchases of it. Greater honey sales mean higher profits for each beekeeper. Thus both parties are pleased. The homemakers like the extra benefits that honey gives her; the beekeepers enjoy the greater profits.

In the spring the gourmet's fancy naturally turns to thoughts of salad. Crisp, colorful salads, in which bright radishes and mild young onions blend with tender greens, make a tasty spring tonic for winter-dulled menus. Nest your salads in a leaf of crisp garden lettuce. You can give the lettuce a distinctive touch by bunching each leaf with your fingers and dipping just the edges into a shallow dish of paprika. When you lay the leaf flat its delicate green will be accentuated by a narrow border of red. You have given your salad more color and, at the same time, an unusual flavor that will be enjoyed even by the nonlettuce eaters.

A new leaflet, "A Honey Nut Cake with Variations," is in the making. A sample leaflet will be mailed to you upon request.



Mrs. Roger Morris, Benton Harbor, Michigan, sends this picture of her father, H. P. Christensen, Decatur, Michigan, standing by one of his colonies that made well over two hundred pounds of honey in 1946.



Charles S. Engle transfers larvae from a comb of brood into hand-dipped queen cells. The picture was taken by Francis Engle, at Beeville, Texas.



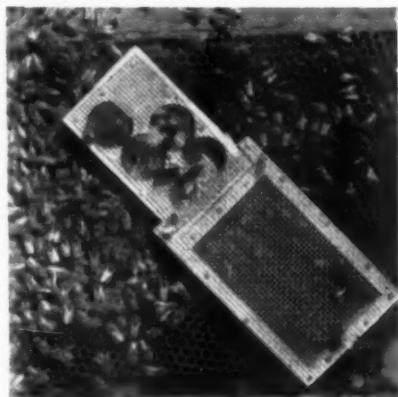
Earl C. Reed, Ranchester, Wyoming, must have cracked down with some real funny stuff when this picture was taken. He says "I always think this looks like Chief Sitting Bull, but it's just Mrs. Reed and I."



Sharon Kalthoff, daughter of Carl Kalthoff, Lexington, Missouri, is another honey child. Honey was substituted for sirup from the start in her formula.



Mrs. Carl Kalthoff did not stop with Sharon's honey. She uses about 300 pounds of honey a year.



Push-in-the-comb, queen introducing cage, Jay Smith make. We use similar cages of screen wire, just folded down, with corner cut-outs, and screen stripped from edges so it will force into comb. Put queen in over emerging brood. Remove cage in a few days.

News of National Federation

The function of the Beekeepers Rights Committee is to survey the beekeeping industry to determine in what fields the National Federation can be of assistance to its members in solving problems pertaining to beekeepers' "rights." The committee was named and appointed originally to investigate the scope of the loss to beekeeping interests resulting from the careless or untimely use of agricultural chemicals, and to make recommendations that might lead to a solution of this problem.

The name of the committee could be improved since the present name immediately stimulates the thought of defensive action against anything that would interfere with legal rights of beekeeping interests. The committee could be called more appropriately, "The Committee on Agricultural Relations," since this name would not create antagonism in any interests with which the industry has to cooperate in finding and working out a solution of its public relations problems.

The chemical poisoning of bees continues to be one of the most serious problems confronting the beekeeping industry in several states, particularly so in the west and southwest.

The intensified use of chemicals for controlling weeds may reduce the number of pollen and nectar plants in various areas sufficient to cause beekeeping interests to seek other locations or to encourage the development of other plants having commercial value outside of beekeeping.

The most obvious remedy to the poisoning hazard is to remove the fundamental causes. These causes are:

1. Poisons in dust or vapor which are applied by such means or under such conditions that cause the poisons to drift from the fields of intended application in quantities that are toxic to honeybees and other livestock.

The remedy: The elimination of poisons in dust form and the substitution of mists or sprays, or the improvement of the dusts or equipment for applying them in order to confine the poisons to the fields treated.

2. The use of arsenicals and other highly toxic substances, especially in dust form.

The Remedy lies in the elimination of the arsenicals and the substitution of other chemicals that are less toxic to bees and other livestock. Substitutes are now available that will give as good or better results than the arsenicals and should be used in the general interests of agriculture. It will take an efficient educational and legislative program to bring about the substitution of these materials because of the many interests involved in their manufacture and use.

3. The careless, inefficient, and excessive use of chemicals that are highly toxic to honeybees and other agricultural interests.

The remedy is the perfection of more efficient methods of applying poisons and more adequate regulation and enforcement of regulations governing the application of agricultural chemicals.

4. A lack of appreciation of the true relationship of the beekeeping industry to the general welfare of agriculture.

The remedy is to encourage research to determine the value of bees to agriculture and the dissemination of this information among those interests responsible for recommending chemical control programs as well as among those who use or apply the poisons, and interests that are responsible for enforcing regulations pertaining to the use of agricultural poisons.

* * * *

There has recently come to this office a Report of the Chief of the Bureau of Entomology and Plant Quarantine for the year 1946.

This report contains several pages relative to the work of the Bee Culture Laboratory.

It also contains a digest of the work during the past year with insecticides, many of them quite new, and with improved methods of use and application.

Subject to a somewhat limited supply, this report may be secured from: James I. Hambleton, Division of Bee Culture, Bureau of Entomology and Plant Quarantine, Beltsville, Maryland.

Quality 3-Banded Italian Queens and Package Bees

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ers' own magazine, but
read by studios honey
producers everywhere.



With the American Bee
Journal makes a com-
bination that covers the
beekeeping field.

Send \$2.00 and get Both Magazines for a year
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Now booking orders for the month of May

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2-lb. with queen	\$4.00	\$3.85	\$3.75
3-lb. with queen	5.00	4.85	4.75
Queens	\$1.25 each.		

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Package Bees with Queen. 2-lb. pkgs.
with queen \$4.00; 3-lb. pkg. with
queen \$5.00; 4-lb. pkg. with queen
\$6.00. Satisfaction guaranteed. 20%
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BUNKIE BEE FARM

R.F.D. 2, Box 85, Bunkie, Louisiana

Promptness is Our Aim

For a bigger crop get our three
Banded Italians. 96% baby bees, 4%
teachers.

We have added 500 colonies to our
outfit and two more men, which will
enable us to better serve you through
1947.

2-lb. package and queen	\$4.00
3-lb. package and queen	5.00
No extra queen.	

Combless bees, 1 lb. \$1.30

Get the best while it lasts.

27 years in bees.

ANDRE DUPUIS, Prop.

DUPUIS APIARIES

BREAUX BRIDGE, LOUISIANA

Men of Today



Charles Franklin Stiles

A desire to get even seldom benefits anyone but in the case of Charles Franklin Stiles, it resulted in his becoming a honey producer and entomologist. When he still wore curls and poked sticks into hive entrances on the Mississippi farm of his grandfather, the bees reacted violently but it started his determination to be a beekeeper. From the picture you will note his hair is still curly!

With little experience he produced 80-pound crops as a boy in the black land, sweet clover section of Mississippi but the first World War intervened and he sold his bees to the Penn Company, then the largest operators in his state. Stiles served with the First Mississippi Field Hospital service and when the war ended, he moved to Oklahoma in 1917, as special agent for the Bureau of Entomology and later was a beekeeping specialist under Dr. E. F. Phillips.

For many years Oklahoma was a minor factor in beekeeping and the wealth of nectar in the Sooner state went to waste. Many beekeepers who moved there, when Indian lands became available, tried methods used in other states and many failed under the wide variation of soils and rainfall. In the early 20's this writer found few honey producers in the state, these mostly in the black land section which later was to yield oil.

The first and last times we saw Stiles he was giving a demonstration

in spraying. Along with it he featured pollination by bees. Stiles is responsible for much of the development of beekeeping in Oklahoma, under Sanborn, for it is doubtful if Oklahoma would rank as it does in fruit and honey without the efforts Stiles has put forth. Most producers in Oklahoma know him and all are indebted to his tireless work in furthering beekeeping. He once engaged in the bee supply business with G. W. Van Demark and later sold to the Taylor Honey Company, when he began work for the extension division of the A. & M. College, Stillwater, in 1929. His first wife was an assistant of Sanborn and died suddenly from pneumonia in 1936. The present Mrs. Stiles was Gladys Smith, home demonstration agent at Pauls Valley. They were married at Sapulpa, May 11, 1946.

Stiles received his B. S. at Mississippi State in 1911 and his Masters at Stillwater in 1931. Born in Artesia, Mississippi, where he began beekeeping in 1906, his first movable-frame hives came through Penn Smith, then largest state producer, who sent his Pritchard to help transfer.

Oklahoma has some heavy honey-flows at times and in restricted locations and this accounts for Stiles' interest in comb honey production. Few, familiar with the rolling plains of Oklahoma, would think of comb honey there. Stiles has induced some to handle supplies, many to adopt modern methods, has preached Italianizing and sold 4-H club members on beekeeping. All this effort is definitely reflected in the amazing strides Oklahoma has made in honey production the last 15 years. We need more men in beekeeping like Stiles.

Kennith Hawkins,
Wisconsin.

MENDING SMOKER BELLOWES

When my smoker bellows broke through in several places I took the tin strips off and cut a piece of rubber from an old inner tube the exact size of the old leather. I then put this on, replaced the tin and it works as good as when it was new.

William S. Reschly, Iowa.

Renting Bees For Pollination

(Continued from page 175)

rearing units as with the other divisions. They cannot be made up and developed in the outapiary where the parent colonies are located but must be moved at least two miles away or they will lose most of the field bees. If they are brought to the central or home yard while the queen cells are being developed, the queenless divisions may also be brought back from the outapiaries on the tenth or twelfth day and the frames containing the queen cells given as soon as the bees quiet down after their release. The few bees that return to the queen rearing unit do not matter. When only one frame containing queen cells remains in the queen rearing unit, a rental division may be set in its place, and the frames of cells installed at once and the few field bees remaining will unite with the division.

First time I tried this method I was uncertain as to the presence of sufficient drones for mating the virgins. However, such powerful colonies as we develop for rental purposes start drone brood the latter part of March, and by the time the virgins are of the proper age to mate, the drones have reached the proper age also. The first trial of this method of early queen rearing was undertaken to provide thirty queens for an equal number of rental divisions. Only two or three failures were found and the queens composing the balance were as fine as any I have raised.

It might be supposed that where queen cells are given to such strong divisions there would be considerable swarming. However, I have always destroyed the poorest cells on the frames, leaving only two or three of the most perfect to develop into queens. Confined to one frame and reduced to only two or three cells there is very little swarming.

When bees are wintered with a shallow food chamber, or two food chambers where the honey content of the hive body is low, there is more difficulty experienced in making up uniform rental divisions. Brood will be found in these shallow super frames, as the heat in the upper portion of the hive is more suited to brood rearing. Therefore it will be necessary to estimate the number of standard frames of bees and brood. Two shallow frames of brood

equal slightly more than one standard frame. It rarely happens that more than five or six full shallow frames will be found with brood in each super for if these were full of honey in the late fall, one or two on each side of the hive will still be full of stores. For practical purposes I figure that eight shallow frames of bees with brood are equal to about five standard frames of brood. The colony would then require another three standard brood frames of bees and brood to make up the required amount for a good rental.

If most of the brood is in the hive body below the food chamber of shallow frames the job of equalizing is much more simple. If the hive body contains seven or eight full frames of brood and bees and the shallow food chamber six shallow frames of bees and brood we would call it a total of eleven or twelve. We would take three of the shallow frames out of the food chamber to be given to another made-up rental, and one or two of the standard brood frames from the hive body.

It is better to practice to be generous in the amount of bees in each rental division than to send out light rentals. Colonies made up of eight full frames of brood and bees will build up into good strong honey producing colonies for the clover flow when headed by fine queens, while an inferior size division may be unsatisfactory for pollination purposes and also fail to build up to the proper size for the honeyflow. A beekeeper may think he is making money by putting out a few more rentals by reducing the amount of bees in each rental but actually he becomes the loser by giving poor pollination service and reducing his colonies so that they will not produce the maximum surplus. A good strong rental will often come back from the orchards with a full super of honey, and this honey converted into bees between the fruit-bloom period and the clover flow makes a fine colony.

Pollination Bulletin

Extension Bulletin No. 342 of The State College of Washington, Agricultural Extension Service, is entitled "Pollination of Tree Fruits and Nuts."

A short discussion is given of the proper planting of self pollinating and self sterile varieties, followed by the role of insects in pollination. It is recommended that there be at least

one colony of bees to each acre of fruits or nuts, preferable more if weather conditions are unfavorable and that these be placed in groups of five or ten, rather than singly throughout the orchard.

The experiments on pollen placed in traps at the entrance of the hive so that the bees would carry pollen to the trees did not seem of any great commercial importance.

Commercial hand pollinating of apples is quite thoroughly discussed, and seems to be above the experimental stage. Some space is given to the collection of the pollen, the manner of removing pollen from the blossoms, curing the pollen, and the methods of applying, which so far are mostly hand methods. The placement of bouquets or the grafting of bouquet limbs on trees is also discussed. At the end of the book is a chart of varieties of fruits and nuts as to their being partially or generally self-fruitful. English walnuts are usually self-fruitful, whereas the filberts are general recognized as self-unfruitful.

Heating and Air Conditioning Beehives

(Continued from page 166)

pounds would be a small yield and that we ought to get 500 pounds or more, in a good year! That may seem preposterous, yet the figures say that it is possible.

It seems to be up to some of us to try this out and see if we are wise enough to get the bees to do as much as calculations show that they should.

Our electrical engineer has done some surprising things. We are going to take the question to our bees and see what they say about it. And what if the results are not as good as we expect? Well, it is quite possible that there are some things we shall have to learn before we can adapt our new plans to the ways of the bees and, if at first you don't succeed, try, try again! In the meantime, we're having a lot of fun, and perhaps something will come of it. We haven't billions to spend in the endeavor, but if we have a little success, perhaps it will point the way and others will help finish the job. A beekeeper, if he is of the experimenting kind, can always find some money to try something that promises to give more honey with less work.

California.



Meetings and Events

Iowa Short Course May 20

The Iowa State College is offering its annual short course May 20 and 21 in Memorial Union on the Iowa State College campus. The first day will be devoted primarily to the problems of the beginner, the second day with the problems of the commercial beekeeper. Those interested in obtaining a copy of the program, write directly to F. B. Paddock, Extension Apiarist, Ames, Iowa.

Missouri Short Course April 23

A one-day short course will be held at the College of Agriculture, University of Missouri, Columbia, Wednesday, April 23. The speakers invited are Dr. Carl J. Drake, Iowa State College, "Use of DDT on Legume Plants and the Effect on Seed Production"; Prof. J. C. Hackleman, Field Crops Specialist, College of Agriculture, Illinois, "Seed Production Pollination of Legume Crops"; Frank C. Pellett, Bees as Pollinating Insects" and "Honey Plants"; L. F. Childers and Dr. Leonard Haseman, "Use of Sulfa Drug as a Control of American Foulbrood"; Carl Kalthoff, President Missouri State Association, discussion leader.

The meeting will begin at 10 o'clock in Mumford Hall.

George D. Jones,
Extension Ent.

New Rochelle (N. Y.) April 20

The New Rochelle Association will hold its regular monthly meeting at 2:30 P. M., April 20 at the Odd Fellows Hall, 20 Lockwood Avenue, New Rochelle. Instructions will be given in spring inspection. Questions and problems will be discussed by

experienced beekeepers. Movies will be shown, after which refreshments will be served. Visitors are welcome.
B. F. Miller, Publicity.

Bronx County (N. Y.) April 13

The Bronx County Association will hold a meeting at the home of Mrs. Grace Bowen, 1336 Balcom Avenue, Bronx, New York, at 2:30 P. M., April 13. Starting with this meeting, and continuing through out the summer, an album of motion pictures will be taken of the apiary of each beekeeper at whose place the meeting is held and of the beekeepers who attend the meeting. These pictures will be shown during the winter months. If you are not a member, you are welcome to come and see what you can learn.

Sam Roberts, Secretary.

Stephen of Ontario to North Carolina

W. A. Stephen, who has been in charge of honey research at the Dominion Experimental Farm at Ottawa, has recently accepted a position with the North Carolina State Department of Agriculture to act as extension and research man for the state. He will be located at State College, Raleigh, North Carolina.

Beekeeping Short Course

Fifth annual short course in beekeeping will be given at the College of Agriculture, University of Minnesota, St. Paul, on May 8, 9 and 10, 1947. The program consists of a series of lectures on the important problems in beekeeping, demonstrations of installing packages in the university apiary, colored movies on the life of bees and their management.

At an informal dinner on May 8, Mr. J. I. Hambleton, in charge of the U. S. D. A. bee culture investigations will speak on "The Place of the Beekeeper in the National Economy" and Dr. J. A. Munro, professor at North Dakota Agricultural College will discuss "Plant Enemies are Bee Enemies."

For complete information write to Dr. J. O. Christianson, Director of Short Courses, University Farm, St. Paul 1, Minnesota.

Board of Directors Meeting

The following directors were present at the meeting of Board of Directors of American Honey Institute at Tampa, Florida, January 16, 1947: Lewis W. Parks, R. F. Remer, L. C. Dadant, M. J. Deyell, R. E. Foster, S. D. Redfield (for M. S. Stone), A. G. Woodman.

A full report of the finances of the institute was read by Mrs. Harriett Grace and was approved by the Board of Directors. This financial report will appear in the annual report of the institute which will go out to all contributors to the institute.

Mrs. Grace displayed letters from many of the big manufacturers of food products as well as from advertising agencies showing the wide distribution of information that honey is being given by the institute.

Mrs. Grace also read a report of the printing expenditures for the 1946 year. A total of about \$5,000 was expended for all kinds of literature, such as: "Old Favorite Honey Recipes," "Use of Honey for Canning and Preserving," "A Honey of a Chocolate Cake," and "Making Every Meal a Guest Meal With Honey Recipes." As many of these booklets

and circulars are sold to honey packers for distribution, the funds thus spent mostly come back as sales returns.

It is difficult to estimate the amount of good that these booklets are doing and besides this, the broadcasts on honey given by Mrs. Grace and members of her staff are bringing honey to the attention of consumers all over the U. S. A.

While honey at the present time is in tremendous demand, the work that the Institute is now doing is building a demand for honey when sugar is again plentiful. Mrs. Grace was commended by the Board of Directors for her activity and good work in behalf of the value of honey.

The following directors were elected:

	Year Elected	Term Expires
L. C. Dadant	1947	1950
R. E. Foster	1947	1950
L. W. Parks	1947	1950
T. E. Burleson	1947	1949
M. S. Stone	1946	1949
A. G. Woodman	1946	1949
M. J. Deyell	1945	1948
Woodrow Miller	1945	1948
R. F. Remer	1945	1948

Officers for the year 1947: L. W. Parks, Chairman, R. F. Remer, Vice-Chairman.

Executive committee for the year 1947: L. W. Parks, R. F. Remer, M. J. Deyell.

J. L. (Pat) Murphy

The members of the Western Missouri Association suffered a great loss in the death of J. L. (Pat) Murphy, field representative. His great interest in life was to help and assist beginners with their problems. He had been interested in bees since he was a young man. He passed away suddenly with a heart attack Sunday, March 9 at the age of 73.

Mrs. H. J. Schaffer, Sec'y.

Bees Late in the South

If central Louisiana is any indication of the progress of spring in the South, northern buyers of package bees may have to be patient with the southern shippers of bees and queens. I have just arrived in central Louisiana (March 17) and the weather is cool and backward with little favorable weather for bees to breed or queens to be reared. The warm fall and early winter has since been followed by steady cold weather.

Package shippers inform me that the season is from two to three weeks

late. The late warm fall caused excessive use of pollen and old bees are disappearing with few young bees to replace them. Of course conditions could change materially with right weather. We hope that all the southern shippers can meet their orders on the dates specified. However, the northern receiver of packages should remember that the shipper is faced with very unusual conditions and be patient with delays.

M. G. Dadant,
(In the field).



Dr. Harry E. Barnard

Indeed, a great leader has passed in the death of Harry E. Barnard. He was the founder of American Honey Institute and American Honey Institute today is still following the principles laid down by its founder. Dr. Barnard was an agricultural chemist and a pioneer in public health relations. He was also founder of the American Baking Institute which is an organization similar to the American Honey Institute with headquarters at Chicago. It has a school for baking and conducts research problems for the baking industry.

Dr. Barnard, since 1941, served as professional specialist in chemistry for the War Manpower Commission and from 1935 to 1940 he was research director of the National Farm Chermurgic Council.

In early years Dr. Barnard was the Federal Food and Administrator for Indiana going through the earlier years in the effort to control adulteration of food products. He was founder and first president of the

Indiana section of the Indiana Chemical Society. He was a member of the American Institute of Chemical Engineers, the National Society of Agricultural Chemists, National Association of State Food Commissioners, the Federal Foods Standards Commission, the Indianapolis Technical Society, and the Lake Michigan Water Commission. Dr. Barnard was also president of the H. E. Barnard, Inc. Industrial and Food Chemists in Indianapolis.

Cary W. Hartman

Cary Winfield Hartman was born in Ohio, May 19, 1856. He entered the teaching profession as teacher and school principal at Marathon, Ohio, and later began a career as a public speaker and lecturer.

He made a study of the history and folklore of the North American Indian and became a recognized authority in that field. From 1905 to 1915 he devoted his life to educational and health work among the Indians of the northeastern states. In 1915 he and Mrs. Hartman moved to Oakland, California, where he remained the rest of his life.

There he renewed his earlier interest in bees and became actively engaged in beekeeping. He organized the Alameda County Association and served as its president. For many years he was secretary and subsequently president of the California Beekeepers' Association, and assisted in the organization of many of the county associations. From 1920 to his death he served as county inspector of Alameda County. His recent death leaves the industry robbed of one of its champions. For almost his entire time for thirty years he devoted himself to beekeeping and beekeepers of the nation.

Besides his wife he leaves three children, five grandchildren and six great-grandchildren.

Coming to Nebraska? Please Let Us Know

A number of non-resident beekeepers plan to bring bees into Nebraska in 1947. The bee population in Nebraska is reaching the saturation point in certain areas. Also some migratory beekeepers are unethical in selecting places for their bees as they crowd beekeepers already established. In spite of the fact that most beekeepers are considerate, the abuses practiced by the few are likely to bring about regulation of migratory beekeeping in

Lest you forget the good rule to go by

Buy your bees and queens from
ALABAMA APIARIES
Bees and queens at prevailing prices.
25 years of satisfactory service. Our
aim, once a customer aways a cus-
tomer.

Alabama Apiaries
Uriah, Alabama



Pellett Clover

New clover spreads rapidly from
deep roots and increases from year to
year. Blooms in June and July. Very
attractive to bees. Root divisions may
be planted in fall or spring. Root di-
visions—25, \$2.00; 100, \$5.00; 250,
\$10.00; 500, \$18.00, postpaid. Ship-
ping to May 10.

MELVIN PELLETT
ATLANTIC, IOWA

STURDY ITALIANS LIGHT THREE Banded TO GOLDEN

Shipping dates open after April 21st.
Only two pound package with queen
available. Price \$4.00 each. May
queens 90 cents each.

NEAL'S APIARIES
HAMBURG, LOUISIANA

QUEENS Leather Colored Italians

1-24	\$1.40	After May 20	1-24	\$1.10
25-99	1.30		25-99	1.00
100 up	1.20		100 up	.90

HUMPHREY BEE FARM
MOUNT VERNON, GEORGIA

WANTED Thousands of Rabbits and other Small Stock, Poultry and Birds, Let

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Bring you the Monthly News of Rabbit,
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Box 251 MILTON, PA.

ITALIAN—1947—QUEENS

Three-Banded Leather Colored Bees.
Shipping season April 1 to Nov. 31.
\$1.20—Selected untested, each \$1.20
\$1.50—Tested, 15 to 20 days, ea. \$1.50
Postpaid, air mail, with directions
and health certificate. Prompt service,
we satisfy.

GOOCH APIARIES, Farmersville, Texas

Nebraska. Therefore, it would be
best for those who plan to bring bees
into Nebraska this spring, first to con-
tact the Nebraska Department of
Agriculture and Inspection, State
Capitol, Lincoln, Nebraska, giving
information as to the number of colo-
nies to be moved into the state, the
approximate date of arrival and where
they are expected to be located.
Nebraska beekeepers who moved their
bees out of the state last fall and plan
to bring them back into Nebraska this
spring should follow the same pro-
cedure.

While the only legal requirement
for bringing bees and used equipment
into this state is that they be ac-
companied by a valid certificate of
inspection showing that the bees have

been inspected and found to be free
from American foulbrood, or other
destructive bee diseases, we still insist
that it is desirable for any beekeeper
who wishes to locate in Nebraska, to
follow the above recommendations in
each case.

L. M. Gates, State Entomologist.

Radio Chat

Radio chats for beekeepers in Iowa
will begin Monday, April 7 at 6:50
A. M. This weekly visit with bee-
keepers has been a regular feature
of the WOI service for Iowa agri-
culture for a good many years. It
is hoped that a large number of bee-
keepers will help in making the pro-
gram of value.

Now Ready for You The Hive and the Honeybee

In 650 big 6x9 pages, you begin with
beekeeping history; the honey industry
today; how to start with bees; locations;
yard management through the year;
honey sources; crop handling; honey sell-
ing; diseases and enemies of bees; honey
as food; how the bee looks inside and outside; how the bee lives through
the year; how to winter bees in new ways . . . modern beekeeping in
every respect and step-by-step. The combined work of the best author-
ities in practice and in scientific theory to be found today.

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needs of today.

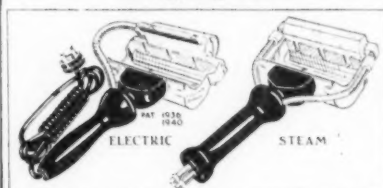


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Hamilton, Illinois

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NEW IMPROVED Rosedale Steam and Electric Uncapping Plane



Electric Plane	\$12.00
Steam Plane	7.50
Ext. Copper Blades	.75

Shipping weight, steam planes 2-lbs.
Electric 3-lbs. Delivery charges extra.

JOHN J. MAENDEL
PORTAGE LA PRAIRIE,
MANITOBA, CANADA

Books About Bees

A LIVING FROM BEES by
Frank C. Pellett. His new 1946
book for all beekeepers. Com-
bining results of many years'
experience with latest develop-
ments. 335 pages. Cloth \$2.50.

**BEEKEEPING FOR PROFIT
AND PLEASURE** by Addison
Webb. A delightful descriptive
view of the bee and her work.
Large size. Cloth. 110 pages \$2.00.

AMERICAN BEE JOURNAL
Hamilton, Illinois

AMERICAN BEE JOURNAL

Italian Pkg. Bees & Queens OF THE HIGHEST QUALITY

PACKAGES WITH QUEENS

1-25	25-50	50-100
2-Lb. \$4.50	\$4.25	\$4.00
3-Lb. \$5.50	5.25	5.00

ITALIAN QUEENS

1 to 25, \$1.50; 25 to 50, \$1.35;
50 to 100, \$1.25

TESTED QUEENS \$3.50

43 Years Among the Bees

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SATSUMA, ALABAMA

HOLLOPETER'S

Hardy, hustling, honey-gathering
Italians. Young laying queens \$1.25
each. Booked full until in June. No
packages.

WHITE PINE BEE FARMS

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DELIVERY GUARANTEED.

SPECIAL QUANTITY DISCOUNTS.

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New REVOLUTIONARY
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The Newton Bee Co.

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CANADIAN BEE JOURNAL

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PRICES

3-lb. pkgs. with queen	\$4.40
2-lb. pkgs. with queens	3.40
Queens \$1.25. Guarantee full weight and prompt shipment.	

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For Three-Banded Italian Package Bees
and Queens the demand this season is still
greater than ever.

Sorry I am booked to capacity on orders until May 15th.
Will accept more orders for shipment after then. Remember
I serve to serve again. Prices as follows—

Lots of	Queens	2-Lb.	3-Lb.
1 to 24	\$1.40	\$4.50	\$5.85
25 to 99	1.30	4.25	5.55
100 up	1.20	4.00	5.25

FOR QUEENLESS PACKAGES DEDUCT PRICE OF QUEEN

FARRIS HOMAN

SHANNON

MISSISSIPPI

Electric Uncapping Knife \$12.00

AND

Queen Transferring Tool \$2.25

Pierce Patents

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ITALIANS PACKAGE BEES & QUEENS

Few open shipping dates left for April, but lots of open dates for May.
We use only the large mating boxes with lots of honey and bees. This
insures full-developed, large, vigorous queens, which are bred and
hardened to all types of weather. All this you must have to reach the
highest peak of production. Your crop depends upon your QUEEN.
Our prices are very reasonable considering stock and service given.

	Queens	2-Lb.	3-Lb.	4-Lb.	5-Lb.
1-24	\$1.40	\$4.50	\$5.85	\$7.20	\$8.55
25-99	1.30	4.25	5.55	6.85	8.15
100-up	1.20	4.00	5.25	6.50	7.75

Apiaries accredited and certified by the Alabama State Department
of Agriculture.

O. K. Anderson & Son Apiaries Coffee Springs, Alabama

York's Package Bees & Queens

QUALITY BRED ITALIANS

Booked full until May 20th. Rush orders now before all dates are filled.

PACKAGE BEES WITH QUEEN

Quantity	1 to 2	3 to 27	30 to 99	102-up
2-lb. pkgs.---	\$4.50 each	\$4.35 each	\$4.20 each	\$4.00 each
3-lb. pkgs.---	5.50 each	5.35 each	5.20 each	5.00 each
Extra Queens	1.50 each	1.45 each	1.40 each	1.35 each

Queenless packages, deduct \$1.15 per package.

Extra queens ordered separately are mailed, and package bees shipped by express only. Send \$1.00 per package for deposit and balance not later than two weeks prior to shipping date.

York Bee Company : Jesup, Ga., U.S.A.

(The Universal Apiaries)

Italians Bessonnet's Italians

Soliciting orders for late May on packages and queens and also summer queens. Refer to previous ads for prices.

BESSONNET BEE COMPANY : Donaldsonville, La.

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LINE BRED ITALIAN STRAIN FOR HIGHEST HONEY PRODUCTION.

	1 to 9	10 to 49	50 to 99	100 up
2-lb. pkg. with young queen	\$4.50	\$4.25	\$4.15	\$4.00
3-lb. pkg. with young queen	5.65	5.40	5.30	5.15
Queens, any number	1 to 49	50 to 99	100 Up	
	\$1.35	\$1.25	\$1.20	

Being near a large airport, we can ship queens daily without any loss of time. Let us have your queen orders for April, May and June. Your satisfaction is our success.

SOUTHLAND APIARIES : MONTGOMERY & SON : Ball, La.

PLANT'S 3-BANDED ITALIANS

We are fully booked to May 5th, but have plenty of bees and queens for shipment after that date.

	1-24	25-99	100-up
2-pound packages	\$4.50	\$4.25	\$4.00
3-pound packages	5.75	5.50	5.25

Queens, \$1.25 each, any number
Above prices include young, laying queens and are F.O.B. shipping point. Queens postpaid.

\$1.00 per package with order, balance 10 days or more prior to shipping date.

W. E. PLANT : Rt. 2 : Hattiesburg, Miss.

To assure yourself of obtaining the best of supplies, read the ads of A-B-J —when writing to them, mention A-B-J

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Subscription \$1.00 per year, \$1.50 two years, \$2.00 three years. In combination with **American Bee Journal \$2.15 per year.**

Timely topics on western Canadian beekeeping and all the news about Canada and Canadian markets. You cannot afford to be without the most up-to-date information in these days of great changes. Sample copy free. Address **WESTERN CANADA BEEKEEPER, 501 Bank of Commerce Bldg., Winnipeg, Manitoba, Canada.**

Leather Colored Italians

QUEENS ONLY

For spring delivery. We are sold out of package bees for the coming year.

Gold Flat Apiaries
NEVADA CITY, CALIFORNIA

Package Bees For 1947



SOLD OUT FOR APRIL

Plenty of May Packages

EUGENE WALKER
GRIDLEY, CALIFORNIA

THRIFTY BEES COMBLES PKGS. AND QUEENS

Open dates beginning June 1st. Write for prices. Remember **THRIFTY BEES** are guaranteed to please.

W. J. FOREHAND & SONS
FORT DEPOSIT, ALA.
Breeders since 1892.

The John M. Davis Strain Italian Queens

BRED THE DAVIS WAY
Guaranteed to please.

Untested ----- \$1.25 each
Tested ----- 2.00 each
After June 30th, \$1.00 each.
Terms—Cash with order.

LITTLE'S APIARIES

P. O. Box 122
SHELBYVILLE, TENNESSEE
—Where Quality Reigns—



This picture was taken March 2, 1946 by Harry T. Starnes, Crawfordsville, Indiana. It shows the bees vigorously loading up on pollen substitute in an inverted telescoping cover.

POLLEN SUBSTITUTE

It is so easy to feed dry pollen substitute. It takes less than a minute to mix 100 pounds of the soy with the yeast and then shovel it into boxes, pans or tubs and set it in front of the hives on warm, sunshiny days and watch the excitement.

Bees fed dry pollen substitute will build up faster and be in all around better shape. Figure five pounds per colony and a mixture of five parts soy to one of yeast.

Descriptive circular free and with each shipment.

5 LB. BAG YEAST ----- \$ 1.50 FOB. Paducah
25 LB. BAG YEAST ----- 6.00 FOB. Paducah
100 LB. BAG YEAST ----- 17.00 FOB. Paducah

25 LB. BAG SOY ----- \$ 2.75 FOB. Paducah
100 LB. BAG SOY ----- 7.15 FOB. Paducah
500 LB. LOTS ----- @ 6.65 FOB. Paducah
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QUICK SHIPMENT FROM OUR LARGE PADUCAH STOCK.

WALTER T. KELLEY CO. : Box 210 : Paducah, Ky.

1947—PRICES—1947

HIGHEST QUALITY PACKAGE BEES

SELECT THREE-BANDED ITALIAN QUEENS of our own production

Quantity	1 to 11	12 to 99	100 or more
2-lb. package with queen	\$4.35	\$4.20	\$4.00
3-lb. package with queen	5.35	5.20	5.00

All packages shipped, Express Collect.

\$1.00 per package will book your order.

QUEENS, less than a dozen, \$1.50 each. 12 to 99, \$1.35 each. 100 or more, \$1.25 each. Parcel Post, Prepaid.

Full weight packages. Young laying queens.

Live delivery and satisfaction guaranteed.

JOHN C. HOGG, Apiarist, Tifton, Ga.

Announcement

We are completely sold out of hives, bodies, supers and frames, due to the difficulties in obtaining pine lumber.

We have foundation, sections, bee gloves, veils, tools and honey containers in both glass and tin.

Write for quotations.

A. H. Rusch & Son Co.
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FULL WEIGHT DELIVERY—BOOKING NOW—10% WITH ORDER.
BALANCE 10 DAYS BEFORE SHIPPING BEES.

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Houma, La.

Queens	\$1.25
2-lb. with queen	4.00
3-lb. with queen	5.00
4-lb. with queen	6.00

BRIGHT ITALIAN QUEENS

From our apiaries will give you beautiful gentle bees and service unexcelled. More than 40 years in rearing queens has taught us the how in rearing the best. You must be satisfied. Try them.

Production costs have forced us to increase the price of our queens.

Untested queens, 1 to 24	\$1.25 each
24 to 99	1.15 each
100 up	\$1.10 each

Tested queens	2.50 each
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Shows the Way to Success . .

Gives the latest news and views of the rabbit world—an illustrated monthly magazine of general and educational features. One year \$1.00; three years, \$2.00; sample 15c.

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GARON'S Package Bees & Queens

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SPRING 1947

WE HAVE SOME OPEN DATES FOR PACKAGES AND QUEENS FROM
MAY 20TH AND LATER.

	Quantity	1 to 9	10 to 24	25 to 99	100 or more
Dependability,	2-lbs. with queen	\$4.25	\$4.15	\$4.10	\$4.00
Quality and	3-lbs. with queen	5.30	5.20	5.15	5.00
Service	4-lbs. with queen	6.50	6.40	6.35	6.30
	Young laying queens	1.25	1.25	1.20	1.15

(Queens clipped at no extra charge)

GARON BEE COMPANY PHONE 8614 **Donaldsonville, La.**

**FAST
SERVICE**



**AND
RESULTS**

Our light colored Italian stock has been selected first, for prolificness; secondly, for high honey production; third, for gentleness; and fourth, for appearance. We will put a colony of these bees up against any for honey production. There are four express and mail trains per day for bees on quick notice. With each package bee shipment, we send 4 per cent extra queens to replace any possible loss when queens are needed at once.

Lot	Queens	2-Lb.	3-Lb.	4-Lb.	5-Lb.
1-5	\$1.55	\$4.75	\$6.00	\$7.25	\$8.50
5-15	1.50	4.65	5.90	7.15	8.40
15-25	1.40	4.50	5.75	7.00	8.25
25 up	1.35	4.40	5.65	6.90	8.15

Above package prices include queen. Queenless packages, subtract \$1.35 from price of package with queen. All queens are airmail, postpaid, but package bees are F. O. B. shipping point and are shipped express collect. It is preferable to ship package bees by Railway Express, however they can be mailed and in that event, customers should include postage.

Terms: Small orders, cash in full. Large orders, 20 per cent deposit, balance to be received two weeks before shipping date. U. S. funds. A 10 per cent discount is allowed on package bees if shipment is to be made after May 20th. A 20 per cent discount allowed on queens if shipment is to be made after May 20th and a 30 per cent discount is allowed on queens to be shipped after June 1st.

Write for Particulars.

DANIELS APIARIES : Picayune, Miss.

PACKAGE BEES with Queens

ITALIANS

3-lb. Pkgs with Queens	\$5.65
2-lb. Pkgs. with Queens	4.50
Extra Queens	1.35

BY EXPRESS

WE SERVE TO SERVE AGAIN

SUNNY SOUTH APIARIES

MARKSVILLE, LA.

I. CLARK, Prop.



Above photo shows a portion of one of our queen yards containing over 10,000 nuclei.

ITALIAN BEES AND YOUNG QUEENS

We still have open dates for package bees and queen orders during the latter half of April and all through May.

PRICES

	1 to 9
2-lb. pkg. with queen (each) ---	\$4.50
3-lb. pkg. with queen (each) ---	5.65
4-lb. pkg. with queen (each) ---	6.80

MAY WE SERVE YOU?

10 to 49	50 to 99	100 & above
\$4.25	\$4.15	\$4.00
5.40	5.30	5.15
6.55	6.45	6.30

Queens (each) \$1.35. Tested \$2.00

PLACE YOUR ORDER NOW

OVERBEY APIARIES : Bunkie, La.

Highest Prime Quality 3-Banded Italian Improved Strain Package Bees & Queens

Backed by over 25 years careful selecting, breeding and shipping to all points in U. S. A. and Canada with 100% perfect satisfaction guaranteed to every one, in every respect.

You get each season's improvements when buying from us, what we mean, each season we select the best for honey producing qualities, disease resistance qualities from many hundreds of best by test colonies. Our breeding and mating stock is carefully picked and tested out for the coming season for your benefit, sparing neither labor nor money in producing the best with patience and long experience which we feel are surpassed by none. Mating is very important in breeding the best strain of bees, we carefully select our drone colonies for mating in quality same as breeders.

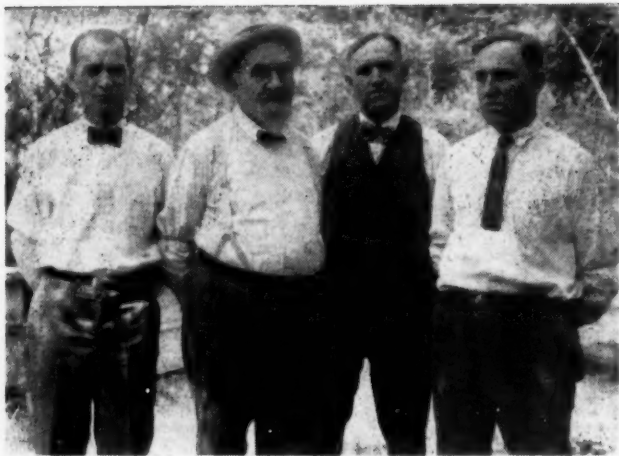
Book your orders now to reserve your specified shipping date. No customer will be disappointed when booking their orders with us. Your bees are guaranteed on time, our prices for 1947 are as follows—one-fourth down payment with order, balance due 10-days before your specified shipping date.

	Queens	2-Lb.	3-Lb.	4-Lb.	5-Lb.
1-24	\$1.40	\$4.50	\$5.85	\$7.20	\$8.55
25-99	1.30	4.25	5.55	6.85	8.15
100-up	1.20	4.00	5.25	6.50	7.75

We guarantee full weight packages, young vigorous bees with their working life ahead, no supersedure in our queens, health certificate with each shipment, 100% perfect satisfaction guaranteed in every respect. For "HIGHEST PRIME QUALITY," PROMPT SHIPMENT we feel free to say we are surpassed by none. Book your orders now for your requirements if possible. We are working each day now to fulfill your requirements for 1947. Placing orders in advance enables us to know what shipments must go out each day in shipping season. THANK YOU.

H. A. Farmer Apiaries : Cottonwood, Ala.

TELEGRAPH AND EXPRESS OFFICE DOTHAN, ALA.



MG (second from right) with his father, C. P. Dadant, and brothers, HC (left) and LC (right).

For the April Crop and Market Report we asked our reporters to answer the following questions:

1. How are bees coming through the winter?
2. Is build-up normal (South and California)?
3. Plant prospects?
4. Is moisture normal?

Condition of Bees

Bees came through the winter satisfactorily in northern and central California but colonies in southern California did not do as well. Beekeepers report that some feeding is necessary. In the Intermountain Region it is reported that bees mostly wintered well, but colonies should be checked for stores as many are reported light in stores. In the southwestern area bees came through the winter in fair condition but the unseasonable cold spell early in March has retarded brood rearing. Most reports from the Plains Area are that bees are coming through the winter in good shape. Iowa reports that quite a number of beekeepers fear that they will have to feed early, and Nebraska expects some winter losses from the windy and coldest February they have had in eight years. East Central and North Central States mostly report that bees wintered fair to good although many reporters point out that it is still too early to really tell. Reports from the Northeastern States are that bees have wintered very well from all appearances.

In the Southeastern States reports vary widely, from those that bees have wintered in excellent shape to many reports of poor and weakened

colonies. Most reports of poor wintering come from Florida, Mississippi, Alabama and North Carolina and probably are due to the unusually cold weather in February and March.

Is Build-up Normal (South and California)?

Most reporters in southern states say that the build-up of colonies is much below normal due to the unusually cold weather during February and March. Some report that build-up is 20 to 25 per cent below normal while others state that brood rearing is two to three weeks behind schedule. Texas, Arkansas and Oklahoma similarly report that brood rearing has been delayed by cold weather and that build-up is slow and behind schedule. Most California points report that spring build-up is normal, but weather in the northern part of the state was reported as being too dry and cold for best results.

Plant Prospects

Plant conditions in California seem to be very spotted with most reporters saying that plant conditions are not good and that more rain is needed. Conditions in southern California appear to be better than those in the northern part of the state. In the Northwest, moisture has been more than ample and plant conditions are excellent. Reports from the Intermountain Region indicate that plant conditions are normal, at least, for this large area, with the possible exception of Wyoming where plant conditions are not too good, although

Crop and Market Report

better than a year ago. Plant prospects in the southwestern area generally are fair to good, but Oklahoma reports conditions only fair since they have had very little moisture since last November. The entire Plains Area reports plant prospects good with some stating that they are the best in years. The East Central and North Central States report plant prospects normal to excellent with only parts of Michigan being reported poor to fair. Prospects in the New England States also are reported as being normal or better. Pennsylvania reports that farmers are not sowing as much alsike clover and are cutting it 10 to 15 days earlier than in the past. Reports concerning plant prospects in the South Central States vary widely with most reports being from normal to good. However, unseasonably cold weather has had its effects. Georgia reports that titi was badly damaged by freeze.

Is Moisture Normal?

California moisture conditions are about normal in the South but below normal in the northern part of the state. In the Intermountain Region moisture conditions vary widely.

Certain parts of Colorado, Wyoming, and Montana report dry conditions and not enough snow in the valleys but plenty in the mountains. Texas, Arkansas, and Oklahoma report moisture conditions are below normal, but recent rains are contributing to correcting this condition. In the Plains Region moisture conditions are good with plenty of snow with the exception of Nebraska, Kansas and Missouri. In the East Central and North Central States moisture conditions are normal with the exception of Michigan, Illinois, and Indiana where certain sections point to a lack of moisture in the soil with little snow. Certain parts of Pennsylvania, New Jersey, and Connecticut report moisture conditions below normal.

HONEY WANTED Cars and less than cars
Top Prices
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Cash Buyers — Honey and Beeswax
BRYANT & SAWYER, Los Angeles 21

Babcock Honey Co.

In combination with our wooden bee supplies, we offer practically all sizes of

Dadant's Foundation

for prompt shipment as listed below.



No.

PRICES

- 3100 Thin Surplus for $4\frac{1}{4}$ " square sections. 28 sheets per lb.
- 3101 Thin Surplus for 4"x5" sections. 34 sheets per lb.
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- 3108 Thin Surplus for 4"x5" split sections. 22 sheets per lb.
- 3103 Thin Surplus for $5\frac{1}{8}$ " shallow frames with solid bottombars. 24 sheets per lb.
- 3104 Thin Surplus for M. D. frames with solid bottom-bars. 22 sheets per lb. (Price on all Thin Surplus \$1.25 per lb.; \$5.95 per 5 lbs.; \$29.25 per 25 lbs.)
- 3105 Bulk Comb $4\frac{1}{2}$ "x $16\frac{1}{2}$ ". 20 sheets per lb.
- 3106 Bulk Comb 5"x $16\frac{1}{2}$ ". 18 sheets per lb.
(Price on all Bulk Comb \$5.75 per 5 lbs.; \$28.50 per 25 lbs.)
- 350 Crimp-Wired Medium Brood, $8\frac{1}{2}$ "x $16\frac{1}{4}$ ", for Hoffman Frames. 10 sheets, \$1.70; 50 sheets \$8.10; 25 lbs., \$27.75; 7 sheets per lb.
- 351 Crimp-Wired Medium Brood, 10 $11/16$ "x $16\frac{1}{4}$ ", for M. D. or Quinby Frames. 11 sheets, \$2.65; 55 sheets, \$12.45; 25 lbs., \$27.75; 5 sheets per lb.
- 352 Crimp-Wired Medium Brood, 4 $13/16$ "x $16\frac{1}{4}$ ", for $5\frac{1}{8}$ " shallow frames. 10 sheets, \$1.10; 50 sheets, \$4.85; 25 lbs., \$28.50; 12 sheets, per lb.
- 353 Crimp-Wired Medium Brood, 5 $11/16$ "x $16\frac{1}{4}$ ", for M. D. shallow frames. 11 sheets, \$1.35; 55 sheets, \$5.85; 25 lbs., \$28.50; 11 sheets per lb.
- 380 Plain Medium Brood, 8"x $16\frac{1}{4}$ ", for Hoffman Frames. 10 sheets, \$1.45; 50 sheets, \$6.85; 25 lbs., \$26.95; 8 sheets per lb.
- 381 Plain Medium Brood, 10"x $16\frac{1}{4}$ ", for M. D. or Quinby Frames. 10 sheets, \$1.95; 25 lbs., \$26.95; 6 sheets per lb.
- 382 Plain Medium Brood, $4\frac{1}{2}$ "x $16\frac{1}{4}$ ", for $5\frac{1}{8}$ " Shallow Frames. 10 sheets, 88c; 50 sheets, \$3.95; 25 lbs., \$27.50; 15 sheets per lb.

BABCOCK HONEY CO.

803 Sumter Street : Columbia, S. C.

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100 COLONIES Italian bees, 2 story, 10-frame. Plenty of stores. Sell all or any part. Lots of extra hives and other equipment. All clean. N. S. Gladish, Nashville 5, Tennessee.

CAUCASIAN QUEENS to fill your hives with gentle high producing bees. Howard Crom, Ripon, California.

ITALIAN QUEENS—Satisfaction assured. Prices upon request. A trial convinces. Lange Apiaries, Llano, Texas.

3-BANDED ITALIAN QUEENS—Good honey producers and gentle to work with. Health certificate furnished. Prices—untested \$1.50 each; tested \$3.00. L. N. Steele, Mooresville, North Carolina.

DON'T GUESS—Know the certified Italian queen you buy will produce a crop of honey for you. Booking orders June to October—\$1.50 each. E. R. Worst, (2) Muscatine, Iowa.

GOLDEN ITALIAN QUEENS—The best of quality. Untested queens \$1.25 each; tested \$2.50 each. Satisfaction guaranteed. Carolina Bee Farm, Graham, N. C.

BREWER'S LINE-BRED CAUCASIAN QUEENS—We are booked solid until June 1st. Queens after this date \$1.25 each. No package bees. Brewer Brothers Apiaries, 3217 Hawthorne Road, Tampa 6, Florida.

THREE-BANDED ITALIANS Certified. Queens—1-24, \$1.40; 25-99, \$1.30; 100-up \$1.20. Packages with queens—2-lbs., 1-24, \$4.50; 25-99, \$4.25; 100-up, \$4.00. 3-lb., \$5.85, \$5.55 and \$5.25 respectively. Shipping commences April 1st. Cottage Hill Apiaries, Rt. 2 Mobile, Alabama.

THREE-BANDED ITALIAN Queens and Bees—Delivery for May 1947. Terms—10% of order holds shipping date. Balance before shipment. Prices—3-lb. pkg. with queen, 1 to 9, each \$5.65; 12 to 49, each \$5.40; 51 to 99, each \$5.30; 100 and above, each \$5.15. Extra queens, \$1.25 each, any quantity. Jas. H. Hacker & Sons, Fitzgerald, Georgia.

ITALIAN AND CAUCASIAN Queens \$1.40 each. Sorry, no more packages for 1947 delivery. John M. Brose, P. O. Box 36, Felton, California.

NO RAISE IN PRICES—3-lb. pkg. with queen \$5.00. Delivery during April. J. E. Wing & Sons, Knights Landing, California.

FOR SALE—Gentle certified Italian bees. Three pound package with queen \$4.50, less queen \$3.50, net f.o.b. after May 15th. Fancy tupelo gallberry chunk comb honey, six five-pound square glass jars to case, ready June 1st. A. V. Dowling, Valdosta, Georgia.

GREEN'S PROFIT-PRODUCING QUEENS will please you as they have pleased hundreds of others. Famous the country over. Where could you do better? The best Italians. Price \$1.25 each. D. P. Green, Rt. 2, Deland, Florida.

BOOKING ORDERS for May delivery—Carniolan and Caucasian package bees. 2-lb. pkg. \$5.00; 3-lb. pkg. \$6.00. Untested queens \$1.40 each. Tillery Brothers, Greenville, Ala.

PACKAGE BEES, QUEENS, Italians. Circular free. Crenshaw County Apiaries, Rutledge, Alabama.

HONEY AND BEESWAX WANTED

WHITE COMB HONEY in 60's. Send sample, price, amount. M. Simpkins, Indian Valley, Virginia.

WANTED—Clover extracted and comb honey. Any quantity. State price in first letter. C. Jankowski, Prairie View, Illinois.

WANTED—Your honey, any amount. Will give top prevailing prices. Herald Partello, Rt. 2, Boone, Iowa.

WANTED—Light extracted honey in 60's clover preferred. J. Jones, 115 West 82 Street, New York 24, N. Y.

HONEY AND BEESWAX. HIGHEST PRICES PAID. MAIL SAMPLES, ADVISE QUANTITY. BRYANT AND SAWYER, LOS ANGELES, CALIFORNIA.

HIGHEST CASH PRICES paid for all grades extracted honey. Prairie View Honey Co., 12303—12th St., Detroit 6, Mich.

HONEY WANTED—Top prices paid. Write immediately. J. Wolosevich, 6515 So. Damen Ave., Chicago, Illinois.

WANTED—Extracted clover honey in 60's. B. I. Evans, Windom, Minnesota.

CLOVER HONEY WANTED in 60's. Large or small lots. Send sample and state quantity. Ellsworth A. Meineke, Arlington Heights, Illinois.

HONEY WANTED—All grades, carloads or less. Also beeswax. Pay top prices. H. & S. Honey & Wax Company, Inc., 265-267 Greenwich St., New York 7, N. Y.

HONEY WANTED—All grades and varieties. Highest cash prices paid. Mail samples. State quantity. HAMILTON & COMPANY, 1360 Produce Street, Los Angeles, California.

WANTED—Extracted honey, white or light amber, in 60's. Ed. Heldt, 1004 W. Washington St., Bloomington, Illinois.

HONEY WANTED—Small or large lots. Send sample and amount. Rocke Apiaries, Eureka, Illinois.

SUPPLIES

BEEKEEPER'S SUPPLIES—Complete stock. L. M. Deming Company, Edmeston, New York.

MOYNO HONEY PUMP—Lifts honey, eliminates necessity for two story honey house construction, minimum of air, uniform flow, passes particles—durable. Write for details. Dadant Foundation and Lewis supplies in turn and as available. SWISHER MARKET, Lewis-Dadant Dealer, P. O. Box 806, Springfield, Ohio.

NEW western pine, Hoffman style brood and extracting frames, split or solid bottom bars. \$7.50 per hundred. Cash with order. John Musgrove, 611 W. Main, Mesa, Arizona.

SUPER WIRE EMBEDDER—Only workable wire imbedder on the market. \$11.50 plus postage. Russell Easton, Rt. No. 3, Binghampton, N. Y.

FOR SALE—25,000 mill run Lewis sections 3 3/4 x 5 1/2 x 1 3/4 scalloped 4 sides 1/4 inch at \$14.00 per thousand, f.o.b. Hamilton, Illinois. Dadant & Sons, Hamilton, Illinois.

HIVE BODIES, covers and bottom boards, bee shipping cages and nuclei hives. All supplies new and knocked down. Price list furnished on request. A & B Supply Company, Coffee Springs, Alabama.

YOUR WAX WORKED into high quality medium brood foundation, 22 cents per pound; 100 pounds, \$18.00. Fred Peterson, Alden, Iowa.

SIMPLEX TRAP clips queens without handling. \$1.75 postpaid. INSTANT FRAME SPACERS—seven, eight, nine, fast-accurate. \$1.50 postpaid. Free circulars, George Lays, 48 Drake Avenue, New Rochelle 2, New York.

BUY YOUR SPRING POLLEN SUBSTITUTE REQUIREMENTS NOW. We have hard to get Dried Brewers' Yeast at 35c per lb., 100-lb. bags, \$23.50. Soybean Flour, 15c per lb., 100-lb. bags, \$8.95. F. O. B. Minneapolis. Free instructions for using included with your order. HONEY SALES COMPANY, 1806-08 No. Washington Ave., Minneapolis 11, Minnesota.

ATTENTION BEEKEEPERS IN MINNESOTA, Wisconsin, Iowa, N. D. and S. D. Buy Lewis-Dadant Bee Supplies and Honey Containers in Minneapolis and save. Send for price lists. TOP PRICES PAID FOR HONEY AND BEESWAX IN CASH OR TRADE. HONEY SALES COMPANY, 1806-08 No. Washington Ave., Minneapolis 11, Minnesota.

PORTER BEE ESCAPES are fast, reliable, labor savers. R. & E. C. Porter, Lewis-town, Illinois.

WRITE FOR CATALOGUE. Quality bee supplies at factory prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries, Manufacturers of Beekeepers' Supplies, Onsted, Michigan.

FOR SALE

WILL SELL 100 or more colonies of bees with equipment. All standard 10-frame hives with double wired foundation. No disease. Reuben Neises, P. O. Box 249, Marshfield, Wisconsin.

FOR SALE—3000 M. D. super frames, 6 1/2 deep, shallow top bars, grooved end bars bored for wire. Complete with nails. H. A. Sundean, 122 Euclid Ave., Crookston, Minn.

SUPERIOR 24-frame Radial extractor. One hundred pounds Dadant 8 1/2 x 16 crimp wired foundation. Electric uncapping knife. Wm. Wiltse, Clearbrook, Minnesota.

About 70 comb honey supers in 8 and 10 frame size. Write for particulars. H. Birchard, Hornick, Iowa.

FOR SALE—Root forty-five frame Simplicity extractor with pulley and steam coil, in first class condition. J. W. Grady, Chafee, New York.

100 new 10-frame cypress bottom boards, \$1.00 each. C. O. Lundin, Rt. 2, Box 275, Pine Bluff, Arkansas.

FOR SALE—98% heart cypress 10-frame reversible bottom boards, new, nailed up. 10 or more \$1.10 each; 50 or more \$1.00 each. Fred L. Poole, Rt. 2, Elizabethtown, N. C.

4-FRAME Root Reversible extractor with power attachment, large cappings can, 2 gal. steam kettle, \$45.00 complete. Robert Banker, Cannon Falls, Minnesota.

FOR SALE—1000 standard full depth 10-fr. supers with wired frames, painted and in excellent condition. Fred Marquette, Thief River Falls, Minnesota.

FOR SALE—Simplicity 45-frame extractor, like new. Used two seasons. Reuben Neises, P. O. Box 249, Marshfield, Wisconsin.

FOR SALE—200 hives of bees, 10-frame hives, and all equipment. Mostly new. Fred Wyatt, Oak Grove, Missouri.

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STANDARD SIZE frames, wedged and grooved top bars, made of white pine. Harold L. McDaniel, Polson, Montana.

HONEY LABELS—Improved designs, embodying color, balance, simplicity and distinction. Please send for free samples and prices. C. W. Aeppler Company, Oconomowoc, Wisconsin.

FOR SALE—300 extracting supers, 9 combs each, \$2.50; or 9 combs without supers, \$2.00. Disease free. All sales must be concluded at our headquarters. Darst-Birdsall, 541 W. 11th St., Corona, California.

FOR SALE in May—500 9-frame hives of bees, telescope metal covers, and 500 4-frame nucs, two to hive. Young queens. Health certificate. Can deliver by States Apiaries at Columbia, California. Herbert J. States, Saratoga, Wyoming.

200 10-fr. supers, 5% inch deep, equipped for comb honey. 250 10-fr. hive bees with super \$17.00. Equipment for 500. Or will sell complete outfit, including home and two or more acres land at Blackfoot, Idaho. Cozy Nook Honey Co., 3773 Moore St., Venice, California.

FOR SALE—Approximately 200 colonies bees in 2 and 3 story hives and lots of extra equipment, 45 fr. extractor and other extracting equipment. Colonies have lots of stores for spring divisions. One acre of ground in small fruit. Also honey house. Sell all the above for \$4,500.00. Located in best honey producing section of Missouri. Will sell separately 1200 comb honey supers, 8 and 10 fr. Frank King & Son, 326 South Bales Ave., Kansas City 1, Missouri.

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WANTED TO BUY—Colonies of bees or hives with drawn combs. Cloverbelt Apiary, A. V. Larson, Madison Minnesota.

WANTED—50 to 200 two-story colonies. Will pay \$12 per colony providing bees and equipment are in good condition. Norman Sharp, Fishers, New York.

WANTED—A power extractor. F. A. Storz, St. Marys, Iowa.

WANTED—Good Brand Senior capping melter. E. E. Salge, Weslaco, Texas.

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MIDDLE-AGED W. W. II infantry veteran wishes to contact commercial beekeeper with view of obtaining employment under the veteran's "on the job training" provision. If you are in need of an energetic, fairly intelligent, and dependable assistant with little experience but quick to learn, write stating your offer to Box 50, care American Bee Journal.

WANTED—Beeman for year around job. Box 783, Dillon, Montana.

HELP WANTED—Can use one more helper in large bee business; also a second one in June. Good wages. M. E. Ballard, Roxbury, New York.

WANTED—Two experienced beemen through coming season. \$160.00 month, plus \$40.00 a month bonus if stay through season. No board or room. Fred A. Robinson, 503 5th Street South, Nampa, Idaho.

NEED ADDITIONAL HELP in Florida and the North, and can use service men under training bill. Paul D. Thompson, 127 Ave. A N.E., Winter Haven, Florida.

WANTED—Helper for my Minnesota apiaries. State age, experience, and wages expected. E. E. Salge, Weslaco, Texas.

WANTED—Experienced and inexperienced help for package and queen business. Opportunity for permanent position. Full particulars in first letter, please. Box 99, Care of American Bee Journal.

HELP WANTED—Man to work with bees coming season. Give reference, wages wanted with board and room furnished, qualifications, etc. J. B. & C. J. Merwin, Prattsville, N. Y.

WANTED—Experienced queen and package beemen for our apiaries. Only honest, reliable men considered, no boozers. Give full information age, experience and salary expected in first letter. Good opportunity for right parties. YORK BEE COMPANY, JESUP, GEORGIA.

GOOD OPPORTUNITY for first-class beeman in a modern California apiary. Able to assist in managing 1500 colony outfit in honey and package bee production. House furnished. State qualifications and wages expected. Also need two experienced or inexperienced helpers. Write Box AC, care American Bee Journal.

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FOR SALE—BASSWOOD TREES, foot to ten foot tall. Write for our new colored circular on nectar and pollen producing shrubs, trees and perennials. Plant for permanent nectar and pollen during the lull of early spring and fall, when your bees need it the most. Nicotlet County Nursery, St. Peter, Minnesota.

TRY the new Mountain Mint (*pycnanthemum pilosum*). Good honey plant, also has other commercial possibilities. Seed, liberal packet, \$1.00; 1/2 ounce (probably 50,000 seeds) \$5.00. Postpaid. Melvin Pellett, Atlantic, Iowa.

ANISE-HYSSOP seed packet 25c; 1/2 ounce \$1.10. (1-lb., \$32.00 should plant one acre). Write for our new colored circular on nectar and pollen producing shrubs, trees and perennials. Nicotlet County Nursery, St. Peter, Minnesota.

BORAGE SEED, \$5 pound; Catnip, \$7; Horehound, \$9; Garden sage, \$10; Thyme, \$1.75 ounce. All vegetable, flower, herb seeds by the ounce or pound. Robert Mead, White River Jct., Vermont.

ONE PACKET each of fifteen good honey plants for \$2.00, postpaid. Illustrated circular free. Melvin Pellett, Atlantic, Iowa.

TRY the new Pellett Clover. Good honey plant. Spreads by underground root system. Root divisions, 25 for \$2.00; 100, \$5.00; 250, \$10.00; 500, \$18.00. Postpaid. Melvin Pellett, Atlantic, Iowa.

RAISE your own trees and shrubs from seed for shade and windbreak. Write for prices and information. Woodlot Seed Co., Norway, Michigan.

ANISE-HYSSOP SEED. Packet 25c; 1/2 ounce \$1.10. James Beecken, Elgin, Illinois, Rt. 1, Bx. 275.

MISCELLANEOUS

BEES—REMOVED FROM house or tree, to hive, without touching either house or bees. Bees will then move honey into hive. Save property, honey and bees with my method. Send \$2.00 for details. Satisfaction guaranteed. Geo. Hawkins, Rt. 3, Richmond, Mo.

PRINTING—100 each envelopes, noteheads, \$1.25. 500 gummed labels, 40c. Rubber stamp, 65c. Brooks, B 120B.J., Arkansas, Wisconsin.

RANCH MAGAZINE—Do you find it difficult to secure information about sheep and sheep ranching methods? The SHEEP AND GOAT RAISER reaches more sheepmen with more information on range sheep than any magazine published. Subscription \$1.50. Hotel Cactus, San Angelo, Texas.

THE BEE WORLD—The leading bee journal in Great Britain and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy, post free, 12 cents, stamps. Membership of the Club, including subscription to the paper 10/6. The Appis Club, The Way's End, Foxton, England.

INDIAN BEE JOURNAL—The only Bee Journal of India. Sample copy against 25 cents (or 1s 6d.) postage stamps. Yearly 7s. 6d. (\$1.50) international M. O. Apply—Bhupen Apiaries (Himalayas), Ramgarh, Dist. Nainital, U. P., India.

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Carloads and less than carloads. Mail sample and best prices in all grades.

C. W. AEPPLER COMPANY
Oconomowoc, Wisconsin

Package Bees For 1947

2-lb. package with queen \$4.00 each
3-lb. package with queen 5.00 each
4-lb. package with queen 6.00 each
Queenless package, deduct \$1.00 from above price. 20% down books order.

HESSMER BEE FARM

HESSMER, LOUISIANA

AUSTRALIAN BEEKEEPING NEWS

The Leading Bee Journal of the Southern Hemisphere is the **AUSTRALASIAN BEEKEEPER**. Subscription 5 shillings per year, start any time. Enquire for International money order for 5 shillings (Australian) at your Post Office. Write now to The Editor, P. O. Box 20, West Maitland, New South Wales, Australia.

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Queens—Italians Only

COMPLETELY BOOKED WITH PACKAGE ORDERS FOR 1947. WE STILL HAVE PLENTY OF QUEENS, EACH \$1.35.

HOMER E. PARK

PALO CEDRO, SHASTA CO., CALIF.

HONEY LABELS

Improved designs, embodying color, balance, simplicity, and distinction. Please send for free samples & prices.

C. W. AEPPLER COMPANY
Oconomowoc, Wisconsin

KOEHNEN'S

Package Bees and Queens

For Quality and Service

KOEHNEN'S APIARIES

GLENN, CALIFORNIA

SOUTH MISSISSIPPI BEES

Three-Banded Italian Stock

Quantity	Queen	2-Lb. Pkg.	3-Lb. Pkg.
1-24	\$1.35	\$4.50	\$5.75
25-99	1.30	4.25	5.55
100-up	1.20	4.00	5.25

Healthy bees, full weight, prompt shipments

BENNETT BEE FARMS

HATTIESBURG, MISSISSIPPI

A-B-J Ads Pay Dividends

Leather Italian Queens and Package Bees

For good results place your requirements with us now; many desirable dates still open. In our 10 years of queen breeding we have developed a gentle but hardy Italian strain.

PRICES FROM LATTER MARCH TO JUNE 1ST, 1947

	Queen	2-Lb.	3-Lb.	5-Lb.
1-24	\$1.40	\$4.50	\$5.85	\$8.55
25-99	1.30	4.25	5.55	8.15
100-up	1.20	4.00	5.25	7.75

Evangeline Bee Co. : Breaux Bridge, La.

PACKAGE BEES AND QUEENS

With many choice dates left unfilled on our order book we are most certain to be able to take care of that rush order of yours for our light three-banded Italian Bees and Queens, the large easy to work with and noted for their honey-gathering quality. For large orders drop us a card, and we'll quote price, or order direct from price quoted below. Health, service and live delivery guaranteed.

	2 Lb. with Queen		3 Lb. with Queen
1 to 24 each	\$4.25	1 to 24 each	\$5.25
25 to 49 each	4.10	25 to 49 each	5.10
50 or more each	3.90	50 or more each	4.90

PLAUCHE BEE FARM : HAMBURG, LA.



NEISES

HONEY CLARIFIERS & FILTERS

Improve the quality of your honey; save valuable time

For further information **THE NEISES CO.**
write to
P. O. BOX 249 - MARSHFIELD, WIS.

Gooch's Italian Queens That Produce

Bright Yellow and Three-Banded Italians, both are gentle and prolific. We do not breed from any queen that does not produce as much as 300 lbs. surplus honey.

	Queens	2-Lb. Bees and Queen	3-Lb. Bees and Queen
1 to 25	\$1.40	\$4.50	\$5.60
26 to 50	1.30	4.25	5.35

We furnish health certificate, get your order in early to assure you of choice shipping date.

JESSE E. GOOCH & SONS, Rt. 3 Pine Bluff, Ark

ITALIAN QUEENS . . . BEES

Line bred since 1927. Queens raised from stock of 200 to 300 lbs. after pulling bees all spring until up into July. Queens mated to drones from similar selection. Also queens from resistant stock and mated in separate yard. Lots of open dates.

	Queens	2-Lb.	3-Lb.	LARGER LOTS, WRITE FOR PRICES
1-24	\$1.40	\$4.50	\$5.65	
25-50	1.30	4.25	5.45	

We specialize in queens for large lots. Write for price on queens.

Homer W. Richard, Rt. 3, Box 252-A, El Dorado, Ark.

Italian Package BEES AND QUEENS

A 10% deposit books your order. We start shipping on or about Apr. 15.

	1-24	25-49	50 up
2-lb. and queen	\$4.40	\$4.20	\$4.00
3-lb. and queen	5.40	5.20	5.00

We are booked for April. No bees shipped C.O.D. Health certificate with each shipment and live delivery guaranteed.

OSCAR ARNOUVILLE
BOX 35 HAMBURG, LA.

Dovetailing Machine

COMPLETE WITH CUTTER AND INDEX.

A time and labor saving device for making your own hive bodies and supers and replacing the broken side and ends of your old supers. Does a perfect job of dovetailing. Cheap to operate and reasonably priced. Details on request.

Carl E. Johnson Co.

1557 Gregory Ave.

LINCOLN PARK, 25, MICH.

NOW BOOKING ORDERS FOR PACKAGE BEES AND QUEENS FOR 1947

Italian and Caucasian Queens

Write for prices.

R. E. LaBARRE

Cottonwood, Box 172, Shasta Co., California

Italian Queens and Bees

We still have some choice shipping dates open for packages and queens.

3-lb. pkgs. with queen	\$5.00
2-lb. pkgs. with queen	4.00
Queens—Try them	1.25

We are asking you to give us a trial order. A health certificate with each order.

Mitchell's Apiaries

BUNKIE, LOUISIANA, BOX 391

Read the Classified Ads

AMERICAN BEE JOURNAL

Root Service from Chicago

In Nineteen-Forty-Seven Confident Beekeeping

The whirlwind of uncertainty, shortages, and disturbed conditions will pass. Will beekeeping emerge sturdily and in the calm sunshine of confidence do its part well in this reconstruction era?

Our country wants increased production of honey and beeswax and services of bees in pollination. Beekeepers aided by the best in knowledge, methods, bees, and equipment can accomplish these increases. We will help with the best in books and literature and needed supplies as much as possible. You may help yourselves by ordering the things you will need early this year.

Will you let us plan now to take care of your need of supplies.

WE WANT HONEY AND BEESWAX IN TRADE
FOR SUPPLIES

A. I. Root Co. of Chicago
224 West Huron Street
CHICAGO, ILLINOIS

"As a result of a conference in September, 1934, between representatives of the A.B.J., the Iowa Agricultural Experiment Station and the Iowa Extension Service a search was started for colonies of bees reported to be showing resistance to American Foulbrood."*

From that date a yearly process of selecting and testing has been going on. These are the DR queens offered by the Iowa Beekeepers' Association.

* Page 596—THE HIVE AND THE HONEYBEE 1946.

	Queens	Packages with DR queen	
		2-lbs.	3-lbs.
1 to 9 ----- (each)	\$1.65	\$5.20	\$4.20
10 to 49 ----- (each)	1.80	5.00	6.00
50 to 99 ----- (each)	1.40	4.75	5.85
100 and up ----- (each)	1.35	4.65	5.75

Iowa Beekeepers' Association
STATE HOUSE DES MOINES, IOWA

Italian Package Bees and Queens

2 pound package with queen -----	\$5.00 each
3 pound package with queen -----	6.25 each
Queens -----	1.50 each

20% deposit with order, balance before delivery.

Reference the First National Bank of Willows, California.

C. G. WENNER
GLENN, CALIFORNIA

Quality Italian Package Bees and Queens

For 1947

Quantity	1-2	3-29	30-98	99 & over
2-lb. pkg. and queen	\$4.50	\$4.30	\$4.15	\$4.00
3-lb. pkg. and queen	5.50	5.30	5.15	5.00
Queens only -----	1.50	1.40	1.30	1.25

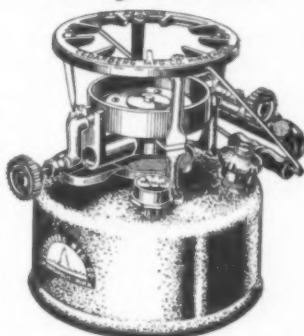
For queenless packages, deduct price of queen.

Packages F. O. B. Queens postpaid.

Deposit: \$1.00 per package at booking, remainder due prior to shipping.

GIRARDEAU APIARIES : TIFTON, GA.
J. H. Girardeau, Jr., Manager

The No. 50 Cedarberg Utility Furnace



The No. 10 Electric Uncapping Knife

"The best knife on the market." Uses either A. C. or D. C. 110 volt current. Blade, 10 in. long, 2 1/4 in. wide, 1/8 in. thick. High carbon knife steel, high and low heat, faster than most steam knives. Order two, have a spare.

Satisfaction guaranteed.
\$13.50 Postpaid

Only \$18.40

CONVERTS KEROSENE INTO GAS. Shipping Weight 17 Lbs. F.O.B. Minneapolis.

In Stock For Immediate Delivery--Order Now
HONEY SALES COMPANY

1806-08 No. Washington Ave., Minneapolis 11, Minnesota
Exclusive N. W. Distributors

FIRST QUALITY

Italian Package Bees and Queens

PRICES FOR 100 OR MORE PACKAGES

2-LB. WITH QUEEN -----	\$5.00
3-LB. WITH QUEEN -----	6.50

EXTRA QUEENS AFTER MAY 10TH
\$1.25 EACH

JOHN S. SHACKELFORD
LIVE OAK, CALIF.

FOR BETTER BEEKEEPING

Dadant's Foundation

First Choice of Expert Beekeepers



Mr. Pellett and Dr. Butler, of the Rothamsted Experiment Station, England, at Pellett Gardens.

Two of the world's greatest botanic gardens are giving attention to honey plants. F. N. Howes, of the staff of the Royal Botanic Garden at Kew in England, has written a book on the subject. August P. Beilman, in charge of the arboretum of the Missouri Botanic Garden at Gray Summit, Missouri, contributes an occasional article relating to bee pasture. Perhaps the time may come when such institutions will set aside special areas for the planting of a bee garden as has already been done on the continent of Europe.

The reference to Chinese elm as a source of honey in our January number is likely to cause some confusion. Thousands of trees have been planted which are not Chinese elm but are called by that name. This is what Beilman calls the real estate tree. The true Chinese elm blooms in September and as indicated in the article mentioned appears to be the source of an abundant nectar supply.

From Fred M. Sickler, of Bonsall, California, comes an account of blood red honey which tasted like pomegranate juice. When he first noticed drops of it on the frames he was of the impression that he had scratched his hand and that it was blood. Since the bees do carry home fruit juice at times it is a likely explanation that this red honey does come from the pomegranate. Apparently the bees get red honey from more than one source.

W. G. Rodda, of Hermiston, Oregon, is another who reports the bees working on the violets. He indicates that there is real competition among the bees for the first chance at the flowers. He reports that dandelions were in bloom at Christmas time

Postscript For April

which indicates that he lives in a mild climate.

A clipping from a California newspaper tells of the retirement of Roy K. Bishop after a long service in the Orange County agricultural department. Bishop was the first commissioner of Horticulture taking office in 1909. He served in that capacity until 1918 and later returned to serve as an inspector from 1927 to 1947. A red-letter day for me on a trip to California many years ago, was a visit to the Bishop home.

The best seed story to come to my desk is from Carl Kalthoff, of Lexington, Missouri, who placed fifty colonies of bees near a four-acre field of alfalfa and secured a cash return of \$448.00 for seed in addition to \$175.00 for hay or a total of about \$155.00 per acre for one year.

One who travels through the South is at once impressed by the number of fields of blue lupine which one sees along the Gulf Coast. At Tampa, Paul Cutts reported that his bees apparently get some honey from this source. Since the lupines are generally regarded as of little value except for pollen, we are very anxious to get more information as to the extent that the bees work this new crop and whether it can be depended upon to yield honey as well as pollen.

Subterranean clover is a new crop coming into use on the Pacific Coast. The question has been raised as to its value for the bees. Frank P. Fuge, of Oregon City, has four acres of it on his farm and reports that he has never seen a bee on it.

Fortunately the other new clovers, Ladino and *Trifolium ambiguum*, are both very good honey plants.

I am asked how many colonies of bees can be pastured per acre on sweet clover. There is no way of telling since it yields so much more honey in some years than others on the same soil and varies so greatly in different localities. It depends also whether more than one strain is available. In some localities the bee-

keeper has a long season with the yellow sweet clover coming into bloom in early June to be followed a little later by the white variety. If the Hubam annual sweet clover is also within reach the flow is likely to last until fall and to give a wonderful harvest in a favorable season. At times it seems that a small field of sweet clover will provide pasture for a good sized apiary. At others the bees get but little.

A very attractive book showing the attractions of New Zealand comes to me from H. R. Busch, of Hornby, Canterbury, in that far country. The pictures indicate that it is a country of wonderful scenery and all accounts picture it as a delightful place to visit. White Dutch clover is the source of the main honey crop. Mr. Busch has apiaries on 26 farms.

L. A. Whaley, of Great Barrington, Massachusetts, contends that wild thyme will do well on either acid or alkaline soils. He describes the color as similar to clear varnish. Thyme is the source of good crops of highly flavored honey in several New York and New England localities.

How about a national honey show? We have swine shows, dairy shows, fat stock shows and what have you. Now and then we hear about an international poultry show which attracts wide attention. It would seem that somewhere might be held a show which would do justice to the honey-producing industry. In England they are able to put on a display of hive products of substantial proportions. Why not here?

April, as usual, takes me back to the test garden for the summer months and letters intended for my personal attention should be addressed to Atlantic, Iowa. Seed of a number of new plants from far countries has come for this spring's planting and we look forward with interest to see what new honey plant of promise may come out of these packets.

FRANK C. PELLETT,
Atlantic, Iowa.

1896

51

1947

Years' Experience

ALTHOUGH our supply is limited we will again be in position to furnish our customers with supplies of good quality at the right price.

Our hive bodies, frames, covers and bottoms are still being made of the very best grades of Western Pine Lumber obtainable. In early summer we will have an additional supply of honey sections made from the finest Northern Wisconsin Basswood, along with about everything the thrifty beekeeper needs in the way of supplies.

Write for our price list which will be available in the month of February.

MARSHFIELD MFG. CO., Inc.
MARSHFIELD, WISCONSIN

JENSEN'S

"MAGNOLIA STATE" STRAIN

Italian Bees and Queens

Our every effort and resource is being employed to prevent any unnecessary delay in the filling of orders entrusted to us; but we ask that you bear with us as patiently as possible in matters over which we have no control.

Following a too warm December and January, February has been the coldest in our recollection, and applying to almost the entire south.

The inevitable result has been a later than usual start of queen-rearing operations. Unless the season in the north is correspondingly late and backward, many shippers are apprehensive of unfavorable reaction of some buyers.

Only by the combined efforts and ingenuity of all concerned, plus favorable weather conditions from now on, can lost time be retrieved, and disappointments averted. Count on us doing all that is humanly possible to ship on or near dates specified.

	Queens	2-lb. Pkgs. with Queens	3-lb. Pkgs. with Queens
1-24 -----	\$1.40	\$4.50	\$5.85
25-99 -----	1.30	4.25	5.55
100-up -----	1.20	4.00	5.25

JENSEN'S APIARIES

MACON, MISS.

Where QUALITY is a "FIRST."

Italian Bees and Queens

We select and breed what we know to be the best Italian bees and queens that can be had. We appreciate the nice business we have had on such good stock. We are completely booked up on bees and queens until May 20th. Let us hear from you concerning your needs for bees and queens after that date.

PRICE LIST UNTIL JUNE 1ST

Quantity	1 to 5	6 to 49	50 to 99	100 up
2-lb. packages bees with queens -----	\$4.50	\$4.35	\$4.20	\$4.00
3-lb. packages bees with queens -----	5.50	5.35	5.20	5.00
4-lb. packages bees with queens -----	6.50	6.35	6.20	6.00
5-lb. packages bees with queens -----	7.40	7.25	7.10	7.00
Queens -----	1.45	1.40	1.35	1.30
Tested Queens -----	2.30	2.20	2.10	2.00

PRICES AFTER JUNE 1ST

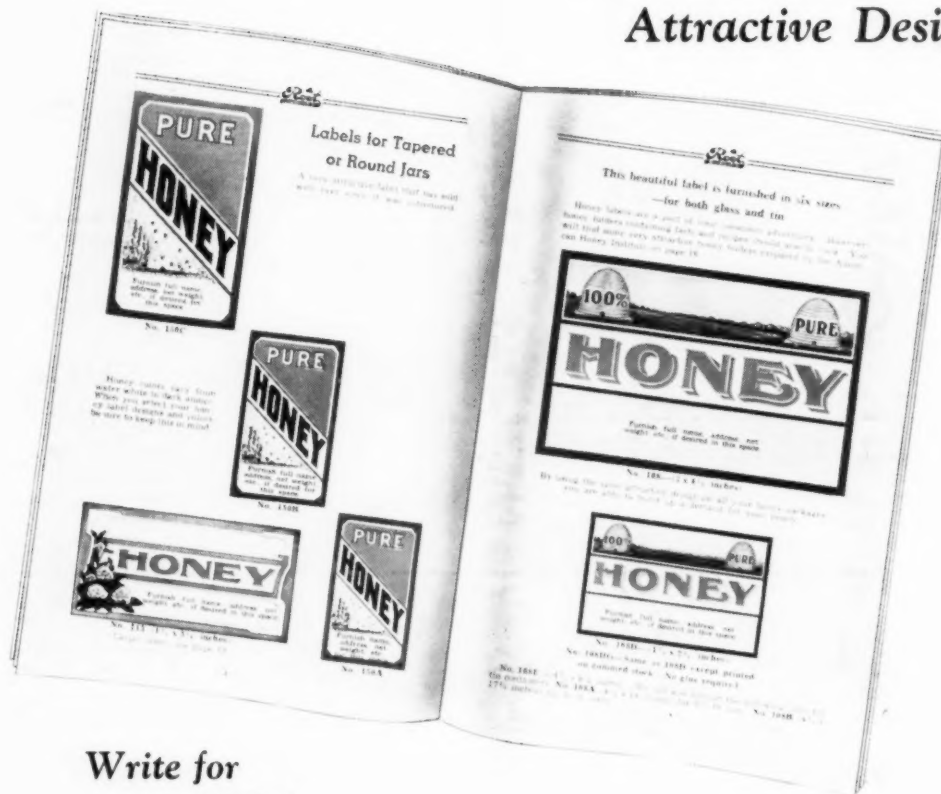
2-lb. packages bees with queens -----	\$4.25	\$4.10	\$3.95	\$3.75
3-lb. packages bees with queens -----	5.25	5.10	4.95	4.75
4-lb. packages bees with queens -----	6.25	6.10	5.95	5.75
5-lb. packages bees with queens -----	7.20	7.00	6.85	6.75
Queens -----	1.30	1.25	1.10	1.00
Tested Queens -----	2.15	2.00	1.95	1.80

Queenless packages, deduct \$1.15 per package
Queens Postpaid. Package Bees F. O. B.

TANQUARY HONEY FARMS, INC.
LENA, SOUTH CAROLINA

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Any of 68 Bright
Attractive Designs



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The Root label catalog is available for immediate mailing.

Select one of the 68 labels illustrated in this 18 page catalog and we will print your name, address, net weight, etc. in lots of 250 labels or more.

Order now to avoid last minute delay.

Note our new gold foil labels 159A, B and C on gum stock.

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